Roche Group development pipeline

Marketed products development programmes

Roche Pharma global development programmes

Roche Pharma research and early development

Genentech research and early development

Roche Group HY 2013 results

Diagnostics

Foreign exchange rate information
# Changes to the development pipeline

## Q2 2013 update

<table>
<thead>
<tr>
<th>New to Phase I</th>
<th>New to Phase II</th>
<th>New to Phase III</th>
<th>New to Registration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3 NMEs</strong></td>
<td><strong>3 NMEs</strong></td>
<td><strong>3 AIs</strong></td>
<td><strong>1 NME NDA submissions EU and US</strong></td>
</tr>
<tr>
<td>RG7410 in metabolic diseases</td>
<td>RG7853 ALK inhibitor in NSCLC</td>
<td>RG1273 Perjeta in HER2-positive gastric cancer</td>
<td>RG7159 obinutuzumab in CLL</td>
</tr>
<tr>
<td>RG7745 in infectious diseases</td>
<td>RG7446 PD-L1 MAb in mNSCLC</td>
<td>RG435 Avastin in recurrent cervical cancer</td>
<td><strong>1 AI submission to FDA</strong></td>
</tr>
<tr>
<td>RG7842 in solid tumors</td>
<td>RG7601 Bcl-2 inh in CLL</td>
<td>RG1569 Actemra in giant cell arteritis</td>
<td>RG1273 Perjeta in neoadjuvant HER2-positive breast cancer</td>
</tr>
<tr>
<td><strong>3 AIs</strong></td>
<td><strong>RG7446 PD-L1 + Zelboraf in metastatic melanoma</strong></td>
<td><strong>RG7446 PD-L1 + Avastin in solid tumors</strong></td>
<td><strong>RG7853 ALK inhibitor in NSCLC</strong></td>
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<tr>
<td><strong>RG7446</strong></td>
<td><strong>RG7446</strong></td>
<td><strong>RG7446</strong></td>
<td><strong>RG7446</strong></td>
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<tr>
<td>PD-L1 + Zelboraf in metastatic melanoma</td>
<td>PD-L1 + Avastin in solid tumors</td>
<td>PD-L1 + Avastin in solid tumors</td>
<td>PD-L1 + Avastin in solid tumors</td>
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<tr>
<td><strong>RG7446</strong></td>
<td><strong>RG7446</strong></td>
<td><strong>RG7446</strong></td>
<td><strong>RG7853</strong></td>
</tr>
<tr>
<td>PD-L1 in solid tumors</td>
<td>PD-L1 in solid tumors</td>
<td>PD-L1 in solid tumors</td>
<td>ALK inhibitor in NSCLC</td>
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<table>
<thead>
<tr>
<th>Removed from Phase I</th>
<th>Removed from Phase II</th>
<th>Removed from Phase III</th>
<th>Removed from Registration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1 NME due to selection of alternative molecule</strong></td>
<td><strong>1 NME</strong></td>
<td><strong>2 NMEs</strong></td>
<td><strong>1 NME EU approval</strong></td>
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<tr>
<td>RG7112 MDM2 ant. in solid and hematological tumors</td>
<td>imgatuzumab (GA201, EGFR MAb) in solid tumors</td>
<td>aleglitazar CV risk reduction post ACS in type 2 diabetes; complete programme terminated</td>
<td>RG3616 Erivedge in advanced basal cell carcinoma</td>
</tr>
<tr>
<td><strong>2 AIs</strong></td>
<td>onartuzumab in triple-neg mBC 1st/2nd line</td>
<td>SST arbaclofen in fragle X syndrome (opt-in opportunity)</td>
<td><strong>1 AI EU+US approval</strong></td>
</tr>
<tr>
<td>SST arbaclofen in autism spectrum disorder (opt-in opportunity)</td>
<td>ARDELIZAR CV risk</td>
<td><strong>1 NME outlicensed by Chugai</strong></td>
<td>RG1569 RoActemra/Actemra in polyarticular JIA</td>
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<tr>
<td><strong>1 NME</strong></td>
<td>ARDELIZAR CV risk</td>
<td>tofogliflozin (SGLT2) in type 2 diabetes</td>
<td><strong>1 AI EU approval</strong></td>
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<tr>
<td><strong>ARDELIZAR CV risk</strong></td>
<td><strong>RG1439 aleglitazar CV risk reduction post ACS in type 2 diabetes; complete programme terminated</strong></td>
<td><strong>1 NME outlicensed by Chugai</strong></td>
<td>RG105 MabThera in ANCA associated vasculitis</td>
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<td><strong>RG7112</strong></td>
<td><strong>ARDELIZAR CV risk</strong></td>
<td><strong>RG1569 RoActemra/Actemra in polyarticular JIA</strong></td>
<td><strong>1 AI US approval</strong></td>
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<tr>
<td>MDM2 ant. in solid and hematological tumors</td>
<td><strong>RG3616 Erivedge in advanced basal cell carcinoma</strong></td>
<td><strong>RG1415 Tarceva in NSCLC EGFR mut 1st line</strong></td>
<td><strong>RG1415 Tarceva in NSCLC EGFR mut 1st line</strong></td>
</tr>
</tbody>
</table>

**Status as of June 30, 2013**
Phase I
(35 NMEs + 5 AIs)

**Oncology**
- RG7316 HER3 MAb solid tumors
- RG7166 CSF1R MAb solid tumors
- RG7167 MEK inh solid tumors
- RG7212 Tweak MAb oncology
- RG7221 Ang2-VEGF MAb oncology
- RG7204 Raf & MEK dual inh solid tumors
- RG7286 CD44 MAb solid tumors
- RG7208 MDM2 ant solid & hem tumors
- RG7429 MEK inh solid tumors
- RG7448 AKT inhibitor solid tumors
- RG7446 PDL1 + 2etiboral metastatic melanoma
- RG7446 PDL1 + Avastin solid tumors
- RG7446 PDL1 solid tumors
- RG7450 Steap1 ADC prostate ca
- RG7458 MUC16 ADC ovarian ca
- RG7586 ADC multiple myeloma
- RG7589 NaPi2b ADC oncology
- RG7600 ADC oncology
- RG7601 Bcl-2 inh hem tumors
- RG7602 CHK1 inh solid tum & lymphoma
- RG7604 PI3K inh solid tumors
- RG7636 ETBR ADC metastatic melanoma
- RG7666 PI3k inh glioblastoma 2L
- RG7741 CHK1 inh(2) solid tum and lymphoma
- RG7842 - solid tumors
- CHU PI3K inh solid tumors
- CHU WT-1 peptide cancer vaccine

**Other disease areas**
- RG7624 IL-17 MAb autoimmune diseases
- CHU IL-6 MAb RA
- CHU CIM331 atopic dermatitis
- RG7740* - infectious diseases
- RG7795 TLR7 agonist HBV
- RG7740* - metabolic diseases
- RG7116 HER3 MAb solid tumors
- RG7155 CSF1R MAb solid tumors
- RG7388 MDM2 ant solid & hem tumors
- RG7595 MEK inh solid tumors
- RG7636 PDL1 + 2etiboral metastatic melanoma
- RG7650 PDL1 solid tumors
- CHU NaPi2b ADC oncology
- CHU MUC16 ADC ovarian ca
- CHU Bcl-2 inh hem tumors
- CHU CHK1 inh solid tum & lymphoma
- CHU PI3K inh solid tumors
- CHU WT-1 peptide cancer vaccine
- CHU FIXa / FX bispecific MAb hemophilia A
- CHU FIXa / FX bispecific MAb hemophilia A
- CHU FIXa / FX bispecific MAb hemophilia A

*FPI Jul 2013

Status as of June 30, 2013
## Roche Group development pipeline

### Phase II
(25 NMEs + 10 Als)

<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
<th>Disease Area</th>
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<td>RG1273</td>
<td>Perjeta</td>
<td>HER2+ mBC 2nd line</td>
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<tr>
<td>RG3302</td>
<td>Kadcyla (T-DM1)</td>
<td>HER2+ gastric cancer</td>
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<tr>
<td>RG3316</td>
<td>Erivedge</td>
<td>operable BCC</td>
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<td>RG3336</td>
<td>onartuzumab</td>
<td>mCRC 1st line</td>
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<td>RG3336</td>
<td>onartuzumab NSCLC (non squamous 1st line)</td>
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<tr>
<td>RG3336</td>
<td>onartuzumab NSCLC squamous 1st line</td>
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</tr>
<tr>
<td>RG3336</td>
<td>onartuzumab glioblastoma 2nd line</td>
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<tr>
<td>RG7204</td>
<td>Zelboraf</td>
<td>papillary thyroid cancer</td>
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<tr>
<td>RG7321</td>
<td>pictilisab (PDK1 inh)</td>
<td>solid tumors</td>
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<tr>
<td>RG7414</td>
<td>pareltuzumab (EGFL7 MAb)</td>
<td>solid tumors</td>
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<tr>
<td>RG7422</td>
<td>Pi3K/mTOR inh</td>
<td>solid &amp; hem tumors</td>
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<tr>
<td>RG7446</td>
<td>PD-L1 MAb</td>
<td>mNSCLC</td>
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<tr>
<td>RG7593</td>
<td>CD22 ADC</td>
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<tr>
<td>RG7596</td>
<td>CD79b ADC</td>
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<tr>
<td>RG7597</td>
<td>HER2/EGFR MA b</td>
<td>m. epithelial tumors</td>
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<tr>
<td>RG7691*</td>
<td>Bcl-2 inh</td>
<td>CLL rel/refract 17pdel</td>
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<td>ALK inhibitor</td>
<td>NSCLC</td>
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<td>RG7868</td>
<td>gypiccan-3 MAb</td>
<td>liver cancer</td>
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<td>RG1589</td>
<td>Actemra</td>
<td>systemic sclerosis</td>
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<td>RG7413</td>
<td>etrolizumab</td>
<td>ulcerative colitis</td>
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<tr>
<td>RG7415</td>
<td>rontalizumab</td>
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<td>RG7449</td>
<td>quilizumab</td>
<td>asthma</td>
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<td>RG7128</td>
<td>mericitabine</td>
<td>HCV</td>
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<td>RG7227</td>
<td>danoprevir</td>
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<tr>
<td>RG7687</td>
<td>-</td>
<td>CMV</td>
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<tr>
<td>RG7790</td>
<td>setrobuvir</td>
<td>HCV</td>
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<td>RG1512</td>
<td>inclacumab</td>
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<td>RG7652</td>
<td>PCSK9 MAb</td>
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<td>RG1450</td>
<td>gantenerumab</td>
<td>Alzheimer’s</td>
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<tr>
<td>RG1577</td>
<td>MAC-B inh</td>
<td>Alzheimer’s</td>
</tr>
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<td>RG1578</td>
<td>mGlul2 NAM</td>
<td>depression</td>
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<tr>
<td>RG1678</td>
<td>bitopertin</td>
<td>obsessive compulsive dis.</td>
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<tr>
<td>RG7090</td>
<td>mGlul5 NAM</td>
<td>tx-resistant depression</td>
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<tr>
<td>RG7412</td>
<td>crenezumab</td>
<td>Alzheimer’s</td>
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<tr>
<td>RG7417</td>
<td>lampalizumab (factor D)</td>
<td>geo. atrophy</td>
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### Phase III
(6 NMEs + 25 Als)

<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
<th>Disease Area</th>
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<tbody>
<tr>
<td>RG435</td>
<td>Avastin</td>
<td>HER2+ BC adj</td>
</tr>
<tr>
<td>RG435</td>
<td>Avastin</td>
<td>HER2-neg. BC adj</td>
</tr>
<tr>
<td>RG435</td>
<td>Avastin</td>
<td>NSCLC adj</td>
</tr>
<tr>
<td>RG435</td>
<td>Avastin</td>
<td>high risk carcinoma</td>
</tr>
<tr>
<td>RG439</td>
<td>Avastin</td>
<td>ovarian cancer 1st line</td>
</tr>
<tr>
<td>RG438</td>
<td>Avastin</td>
<td>rel. ovarian ca. Pt-resistant</td>
</tr>
<tr>
<td>RG435</td>
<td>Avastin</td>
<td>rel. ovarian ca. Pt-sensitive</td>
</tr>
<tr>
<td>RG435</td>
<td>Avastin</td>
<td>cervical cancer recurrent</td>
</tr>
<tr>
<td>RG1273</td>
<td>Perjeta</td>
<td>HER2+ early BC</td>
</tr>
<tr>
<td>RG1273</td>
<td>Perjeta</td>
<td>HER2+ gastric cancer</td>
</tr>
<tr>
<td>RG1415</td>
<td>Tarceva</td>
<td>NSCLC adj</td>
</tr>
<tr>
<td>RG3502</td>
<td>Kadcyla (T-DM1)</td>
<td>HER2+ mBC 3rd line</td>
</tr>
<tr>
<td>RG3502</td>
<td>Kadcyla (T-DM1)</td>
<td>HER2+ mBC 1st line</td>
</tr>
<tr>
<td>RG3502</td>
<td>Kadcyla (T-DM1)</td>
<td>HER2+ early BC</td>
</tr>
<tr>
<td>RG3502</td>
<td>onartuzumab</td>
<td>NSCLC 2nd/3rd line</td>
</tr>
<tr>
<td>RG3502</td>
<td>onartuzumab</td>
<td>gastric cancer</td>
</tr>
<tr>
<td>RG7159</td>
<td>obinutuzumab</td>
<td>DLBCL</td>
</tr>
<tr>
<td>RG7199</td>
<td>obinutuzumab</td>
<td>iNHL relapsed</td>
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<tr>
<td>RG7199</td>
<td>obinutuzumab</td>
<td>iNHL front-line</td>
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<td>Zelboraf</td>
<td>m. melanoma adj</td>
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<tr>
<td>RG7421</td>
<td>cobimetinib (MEK inh)</td>
<td>m. melanoma</td>
</tr>
<tr>
<td>RG1659</td>
<td>Actemra</td>
<td>early RA</td>
</tr>
<tr>
<td>RG1569*</td>
<td>Actemra</td>
<td>giant cell arteritis</td>
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<tr>
<td>RG3637</td>
<td>lebrikizumab</td>
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<td>RG3648</td>
<td>Xolair</td>
<td>chronic idiopathic urticaria</td>
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<td>RG3806</td>
<td>oral octreotide</td>
<td>acromegaly</td>
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<td>CHU</td>
<td>Suxeny</td>
<td>enthesopathy</td>
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<td>RG1594</td>
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<td>RMS</td>
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<tr>
<td>RG1594</td>
<td>ocrelizumab</td>
<td>PPMS</td>
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<tr>
<td>RG1678</td>
<td>bitopertin</td>
<td>schiz. neg symptoms</td>
</tr>
<tr>
<td>RG1678</td>
<td>bitopertin</td>
<td>schiz. subopt control</td>
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</table>

### Registration
(2 NMEs + 5 Als)

<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
<th>Disease Area</th>
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<tbody>
<tr>
<td>RG105</td>
<td>MabThera</td>
<td>NHL sc formulation</td>
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<tr>
<td>RG435</td>
<td>Avastin</td>
<td>glioblastoma 1st line</td>
</tr>
<tr>
<td>RG3502</td>
<td>Kadcyla (T-DM1)</td>
<td>HER2+ pretreat. mBC</td>
</tr>
<tr>
<td>RG1273</td>
<td>Perjeta</td>
<td>HER2+ BC neoadj</td>
</tr>
<tr>
<td>RG3502</td>
<td>Kadcyla (T-DM1)</td>
<td>HER2+ gastric cancer</td>
</tr>
</tbody>
</table>

**Status as of June 30, 2013**

1. US only: ongoing evaluation for FDA submission
2. Submitted in EU
3. Submitted in US
4. Approved in US; submitted in EU

### Roche Genentech managed

- **CHU**: Chugai managed
- **RG105**: MabThera is branded as Rituxan in US and Japan
- **RG1569**: Actemra is branded as RoActemra in EU
NME submissions and their additional indications
Projects currently in phase 2 and 3

Unless stated otherwise, submissions are planned to occur in US and EU.

- Indicates a submission which has occurred with regulatory action pending
- Negative symptoms and sub-optimal control

Status as of June 30, 2013
Submissions of additional indications for existing products

Projects currently in phase 2 and 3

Avastin rel. ovarian ca. Pt-resist
Avastin rel. ovarian ca. Pt-sens. (US)
Avastin ovarian cancer 1st line (US)
Avastin glioblastoma 1st line (US)
Avastin glioblastoma 1st line (US)
* Perjeta HER2-pos BC neoadjuvant
Tarceva NSCLC adj (EU)
Actemra early RA
Xolair (US) chronic idiopathic urticaria
Avastin cervical cancer
Avastin HER2-pos. BC adj
Tarceva NSCLC adj (US)
Avastin HER2-neg BC adj
Kadcyla (T-DM1) HER2-pos. mBC 1st line
Kadcyla (T-DM1) HER2-pos. gastric cancer
Kadcyla (T-DM1) HER2-pos. early BC
Zelboraf papillary thyroid cancer
Zelboraf met melanoma adj.
Zelboraf giant cell arteritis
Actemra systemic sclerosis

2013 2014 2015 2016 and beyond

✓ indicates submission to Health Authorities has occurred.
* Filing in the EU under discussion

Unless stated otherwise, submissions are planned to occur in US and EU.

Status as of June 30, 2013
Major granted and pending approvals 2013

**Approved**

**US**
- **Tarceva**
  - NSCLC EGFR mut 1st line
  - May 2013
- **Kadcyla T-DM1**
  - HER2-pos pretreated mBC
  - Feb 2013
- **Avastin**
  - mCRC TML
  - Jan 2013
- **Perjeta**
  - HER2-pos mBC 1st line
  - Mar 2013
- **Erivedge**
  - adv. basal cell carcinoma
  - Jul 2013
- **Actemra**
  - polyarticular JIA
  - Apr 2013
- **Lucentis**
  - AMD 0.5 mg PRN
  - Feb 2013

**EU**
- **Erivedge**
  - adv. basal cell carcinoma
  - Jul 2013
- **Actemra**
  - RA sc formulation
  - Filed Dec 2012
- **Avastin**
  - mCRC TML
  - Jan 2013
- **Perjeta**
  - HER2-pos BC neoadjuvant
  - Filed Apr 2013
- **Kadcyla T-DM1**
  - HER2-pos advanced mBC
  - Filed Aug 2012
- **MabThera**
  - ANCA associated vasculitis
  - Apr 2013
- **Actemra**
  - RA sc formulation
  - Filed Dec 2012
- **MabThera**
  - NHL sc formulation
  - Filed Dec 2012

**Pending approvals**

**US**
- **obinutuzumab**
  - CLL
  - Filed Apr 2013
- **Actemra**
  - RA sc formulation
  - Filed Dec 2012

**EU**
- **Herceptin**
  - Her2-pos BC sc formulation
  - Filed Mar 2012
- **Avastin**
  - glioblastoma 1st line
  - Filed Mar 2013
- **obinutuzumab**
  - CLL
  - Filed Apr 2013

**Legend**
- **Oncology**
- **Immunology**
- **Infectious Diseases**
- **CardioMetabolism**
- **Neuroscience**
- **Ophthalmology**
- **NME**

Status as of June 30, 2013
# Major Chugai granted and pending approvals 2013

<table>
<thead>
<tr>
<th>Approved</th>
<th>Pending approvals</th>
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<tr>
<td>Avastin malignant glioma</td>
<td>Avastin ovarian cancer</td>
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<tr>
<td>Jun 2013</td>
<td>Filed Oct 2012</td>
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<tr>
<td>Perjeta HER2-pos mBC</td>
<td>Kadcyla HER2-pos mBC</td>
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<tr>
<td>Mar 2013</td>
<td>Filed Jan 2013</td>
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<tr>
<td>Tarceva NSCLC EGFR mut 1st line</td>
<td>Actemra sc formulation</td>
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<tr>
<td>Jun 2013</td>
<td>Boniva/Bonviva osteoporosis</td>
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<td>Jun 2013</td>
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</tbody>
</table>

**Status as of June 30, 2013**
Doing now what patients need next
Roche Group development pipeline

Marketed products development programmes

Roche Pharma global development programmes

Roche Pharma research and early development

Genentech research and early development

Roche Group HY 2013 results

Diagnostics

Foreign exchange rate information
# MabThera/Rituxan

## Oncology development programme

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Front-line follicular non-Hodgkin’s lymphoma</th>
<th>Previously untreated chronic lymphocytic leukemia</th>
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<tbody>
<tr>
<td>Phase/study</td>
<td>Phase III SABRINA Subcutaneous study</td>
<td>Phase Ib SAWYER Subcutaneous study</td>
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<tr>
<td></td>
<td>Study being conducted ex-US</td>
<td>Study being conducted ex-US</td>
</tr>
<tr>
<td># of patients</td>
<td>N=405</td>
<td>N=225</td>
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</table>
| Design             | • **ARM A**: MabThera iv plus chemotherapy (CHOP or CVP)  
• **ARM B**: MabThera 1400mg SC plus chemotherapy (CHOP or CVP)  
  **Two-stage design:**  
  - Stage 1 (dose confirmation, N=127): PK primary endpoint  
  - Stage 2 (N=280): Efficacy primary endpoint (ORR) Responders will continue on maintenance every 8 weeks over 24 months | • Two-stage design:  
  - Stage 1 (dose-finding, N=55)  
  - Stage 2 (N=170): CLL dose confirmation:  
• **ARM A**: MabThera iv plus chemotherapy (fludarabine and cyclophosphamide)  
• **ARM B**: MabThera 1600mg sc plus chemotherapy (fludarabine and cyclophosphamide) |
| Primary endpoint   | • Pharmacokinetics, safety and efficacy     | • Part 1: PK (dose selection)  
• Part 2: PK of MabThera iv versus MabThera sc (arm A vs arm B) |
| Status             | • Stage 1 primary endpoint (PK noninferiority) met  
• Presented at ASH 2012  
• Filed with EMA Q4 2012 | • FPI (stage 2) Q3 2012  
• Stage 1 data presented at ASH 2012 |

Subcutaneous MabThera: applies Enhance technology, partnered with Halozyme  
CHOP=Cyclophosphamide, Doxorubicin, Vincristine and Prednisolone; CVP=Cyclophosphamide, Vincristine and Prednisolone  
ASH=American Society of Hematology.
# MabThera/Rituxan

**Immunology development programme**

<table>
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<th>Patient population</th>
<th>ANCA-associated vasculitis</th>
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<tbody>
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<td><strong>Phase/study</strong></td>
<td>Phase II/III RAVE*</td>
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<td><strong># of patients</strong></td>
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<tr>
<td><strong>Design</strong></td>
<td>• Non-inferiority efficacy and safety study of MabThera/Rituxan and glucocorticoids versus conventional therapy (cyclophosphamide)</td>
</tr>
<tr>
<td><strong>Primary endpoint</strong></td>
<td>• Induction of complete remission at 6 months, defined as a BVAS/WG of 0 and off glucocorticoid therapy</td>
</tr>
</tbody>
</table>
| **Status**         | • Data presented at ACR 2009  
|                     | • FDA approved use of Rituxan in WG and MPA in Q2 2011  
|                     | • Approved in EU Q2 2013 |

*In collaboration with Biogen Idec  
WG - Wegener's Granulomatosis, MPA - Microscopic Polyangiitis  
ACR=American College of Rheumatology
## Avastin

**Ovarian cancer clinical development programme**

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Front-line metastatic ovarian cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase/study</strong></td>
<td><strong>Phase III</strong> GOG-0218</td>
</tr>
<tr>
<td># of patients</td>
<td>N=1,873</td>
</tr>
</tbody>
</table>
| **Design**         | • **ARM A:** Paclitaxel and carboplatin for 6 cycles plus 5 cycles of concurrent placebo followed by placebo alone for up to 22 cycles (15 months)  
  • **ARM B:** Paclitaxel and carboplatin for 6 cycles plus 5 cycles of concurrent Avastin followed by placebo alone for up to 22 cycles (15 months)  
  • **ARM C:** Paclitaxel and carboplatin for 6 cycles plus 5 cycles of concurrent Avastin followed by Avastin alone for up to 22 cycles (15 months) |
|                    | • ARM A: Paclitaxel and carboplatin for 6 cycles  
  • ARM B: Paclitaxel and carboplatin plus concurrent Avastin for 6 cycles followed by Avastin alone for up to 18 cycles (12 months) |
| **Avastin dose**   | • 15 mg/kg q3 weeks                 | • 7.5 mg/kg q3 weeks |
| **Primary endpoint** | • Progression-free survival         | • Progression-free survival |
| **Status**         | • Study met its primary endpoint in Q1 2010  
  • Data presented at ASCO 2010 and 2011  
  • Results: NEJM 2011 Dec 29;365(26):2484-96 |
|                    | • Study met its primary endpoint Q3 2010  
  • Data presented at ESMO 2010 and ASCO 2011  
  • Results: NEJM 2011 Dec 29;365(26):2473-83 |
|                    | • EMA approval Q4 2011  
  • Re-evaluate FDA submission when final overall survival results from all phase III trials are available (expected 2013) |
### Avastin

**Ovarian cancer clinical development programme**

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Relapsed Platinum-sensitive ovarian cancer</th>
<th>Relapsed Platinum-resistant ovarian cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase/study</strong></td>
<td>Phase III OCEANS</td>
<td>Phase III AURELIA</td>
</tr>
<tr>
<td><strong># of patients</strong></td>
<td>N=484</td>
<td>N=361</td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• ARM A: Carboplatin, gemcitabine, and concurrent placebo for 6-10 cycles, followed by placebo alone until disease progression</td>
<td>• ARM A: Paclitaxel, topotecan or liposomal doxorubicin</td>
<td></td>
</tr>
<tr>
<td>• ARM B: Carboplatin, gemcitabine, and concurrent Avastin for 6-10 cycles, followed by Avastin alone until disease progression.</td>
<td>• ARM B: Paclitaxel, topotecan or liposomal doxorubicin plus Avastin</td>
<td></td>
</tr>
<tr>
<td><strong>Avastin dose</strong></td>
<td>15 mg/kg q3 weeks</td>
<td>10 mg/kg q2 weeks or 15 mg/kg q3 weeks</td>
</tr>
<tr>
<td><strong>Primary endpoint</strong></td>
<td>Progression-free survival</td>
<td>Progression-free survival</td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td>Study met its primary endpoint Q1 2011</td>
<td>Study met its primary endpoint Q2 2012</td>
</tr>
<tr>
<td></td>
<td>Data presented at ASCO 2011</td>
<td>Data presented at ASCO 2012</td>
</tr>
<tr>
<td></td>
<td>EMA approval received Q4 2012</td>
<td>EMA submission expected Q3 2013</td>
</tr>
<tr>
<td></td>
<td>Re-evaluate FDA submission when final overall survival results from all phase III trials are available (expected 2013)</td>
<td></td>
</tr>
</tbody>
</table>

ASCO=American Society of Clinical Oncology.
### Avastin

**Cervical cancer clinical development programme**

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Stage IVB, recurrent or persistent cervical cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase/study</strong></td>
<td>Phase III GOG-240</td>
</tr>
<tr>
<td><strong># of patients</strong></td>
<td>N=452</td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td>• ARM A: Paclitaxel, cisplatin</td>
</tr>
<tr>
<td></td>
<td>• ARM B: Paclitaxel, cisplatin plus Avastin</td>
</tr>
<tr>
<td></td>
<td>• ARM C: Paclitaxel, topotecan</td>
</tr>
<tr>
<td></td>
<td>• ARM D: Paclitaxel, topotecan plus Avastin</td>
</tr>
<tr>
<td><strong>Avastin dose</strong></td>
<td>• 15 mg/kg q3 weeks</td>
</tr>
<tr>
<td><strong>Primary endpoint</strong></td>
<td>• Progression-free survival</td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td>• Study met its primary endpoint Q1 2013</td>
</tr>
<tr>
<td></td>
<td>• Data presented at ASCO 2013</td>
</tr>
<tr>
<td></td>
<td>• To be discussed with health authorities</td>
</tr>
</tbody>
</table>

ASCO=American Society of Clinical Oncology.
## Avastin

**High risk carcinoid, brain and breast cancer development programmes**

<table>
<thead>
<tr>
<th>Patient population</th>
<th>High risk carcinoid</th>
<th>Newly diagnosed glioblastoma</th>
<th>First-line HER2-negative metastatic breast cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase/study</td>
<td>Phase III SWOG SO518</td>
<td>Phase III AVAglio</td>
<td>Phase III MERiDiAN</td>
</tr>
<tr>
<td># of patients</td>
<td>N=424</td>
<td>N=920</td>
<td>N=480</td>
</tr>
</tbody>
</table>
| Design             | • ARM A: Depot octreotide plus interferon alpha  
                     • ARM B: Depot octreotide plus Avastin  
                     • ARM A: Concurrent radiation and temozolomide plus placebo; followed by maintenance TMZ plus placebo for 6 cycles; then placebo until disease progression  
                     • ARM B: Concurrent radiation and TMZ plus Avastin; followed by maintenance TMZ plus Avastin for 6 cycles; then Avastin (15mg/kg q3 weeks) monotherapy until disease progression  
                     • ARM A: Paclitaxel + Avastin  
                     • ARM B: Paclitaxel + Placebo |
| Avastin dose       | 15 mg/kg q3 weeks   | 10 mg/kg q2 weeks or 15 mg/kg q3 weeks | 10 mg/kg q2 weeks |
| Primary endpoint   | Progression-free survival  
                     • Overall survival  
                     • PFS in ITT  
                     • PFS in patients with high plasma VEGF-A |
| Status             | Recruitment completed  
                     • Expect data 2013  
                     • Co-primary endpoint of PFS met Q3 2012  
                     • Overall survival data presented at ASCO 2013  
                     • Filed in EU Q1 2013  
                     • FPI Q3 2012 |

TMZ=temozolomide; ASCO=American Society of Clinical Oncology
### Avastin Adjuvant clinical development programme

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Adjuvant lung cancer</th>
<th>Adjuvant breast cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase/study</td>
<td>Phase III ECOG 1505</td>
<td>Phase III ECOG 5103</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phase III BETH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HER2-negative</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HER2-positive</td>
</tr>
<tr>
<td># of patients</td>
<td>N=1,500</td>
<td>N=4,950</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N=3,600</td>
</tr>
<tr>
<td>Design</td>
<td>ARM A: Cisplatin plus vinorelbine, docetaxel, gemcitabine or pemetrexed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ARM B: Cisplatin plus vinorelbine, docetaxel, gemcitabine or pemetrexed plus Avastin up to 12 months</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ARM A: Anthracycline plus cyclophosphamide (AC) followed by paclitaxel</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ARM B: AC plus Avastin followed by paclitaxel plus Avastin</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ARM C: AC plus Avastin followed by paclitaxel plus Avastin, followed by Avastin up to 12 months</td>
<td></td>
</tr>
<tr>
<td></td>
<td>COHORT 1: Docetaxel/ carboplatin plus Herceptin  Avastin</td>
<td></td>
</tr>
<tr>
<td></td>
<td>COHORT 2: Docetaxel plus Herceptin  Avastin, followed by 5-fluorouracil, epirubicin, cyclophosphamide</td>
<td></td>
</tr>
<tr>
<td></td>
<td>For both cohorts, patients receive Herceptin  Avastin to complete one year of targeted therapy</td>
<td></td>
</tr>
<tr>
<td>Avastin dose</td>
<td>15 mg/kg q3 weeks</td>
<td>15 mg/kg q3 weeks</td>
</tr>
<tr>
<td></td>
<td>15 mg/kg q3 weeks</td>
<td></td>
</tr>
<tr>
<td>Primary endpoint</td>
<td>Overall survival</td>
<td>Disease-free survival</td>
</tr>
<tr>
<td></td>
<td>Disease-free survival</td>
<td></td>
</tr>
<tr>
<td>Status</td>
<td>FPI Q3 2007</td>
<td>Enrolment completed Q2 2011</td>
</tr>
<tr>
<td></td>
<td>Recruitment ongoing</td>
<td>Expect data 2014</td>
</tr>
<tr>
<td></td>
<td>Expect data 2016</td>
<td>Expect data 2014</td>
</tr>
<tr>
<td></td>
<td>Enrolment completed Q4 2010</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Expect data 2013</td>
<td></td>
</tr>
</tbody>
</table>
## Herceptin

**Standard of care for HER2-positive early breast cancer**

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Early-stage HER2-positive breast cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase/study</td>
<td>Phase III HANNAH Subcutaneous study</td>
</tr>
<tr>
<td># of patients</td>
<td>N=595</td>
</tr>
</tbody>
</table>
| Design             | • **ARM A:** Chemotherapy* concurrent with Herceptin 600mg SC q3w for the first 8 cycles  
                     • **ARM B:** Chemotherapy* concurrent with Herceptin iv for the first 8 cycles  
                     *Chemotherapy = docetaxel then 5-FU, epirubicin, and cyclophosphamide |
| Primary endpoint   | • Serum concentration  
                     • Pathologic complete response |
| Status             | • Positive top-line data reported in October 2011  
                     • Data presented at EBCC 2012  
                     • Filed in EU Q1 2012  
                     • CHMP positive opinion received Q2 2013 |

Subcutaneous Herceptin : applies Enhanze technology, partnered with Halozyme.

EBCC=European Breast Cancer Conference.
## Perjeta

*First in a new class of HER dimerization inhibitors*

---

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Neoadjuvant HER2-positive breast cancer</th>
<th>Adjuvant HER2-positive breast cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase/ study</strong></td>
<td><strong>Phase II NEOSPHERE</strong></td>
<td><strong>Phase II TRYPHAENA</strong></td>
</tr>
<tr>
<td># of patients</td>
<td>N=417</td>
<td>N=225</td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARM A: Herceptin plus docetaxel</td>
<td>ARM A: FEC followed by Taxane with Herceptin and pertuzumab (H+P given concurrently)</td>
<td>ARM A: Perjeta (840mg loading, 420mg q3w) plus Herceptin and docetaxel</td>
</tr>
<tr>
<td>ARM B: Perjeta (840mg loading, 420mg q3w) plus Herceptin and docetaxel</td>
<td>ARM B: FEC followed by Taxane with Herceptin + pertuzumab (H+P given sequentially)</td>
<td>ARM B: Placebo plus Herceptin (52 weeks) plus chemotherapy (6-8 cycles)</td>
</tr>
<tr>
<td>ARM C: Perjeta plus Herceptin</td>
<td>ARM C: TCH + pertuzumab (H+P given concurrently)</td>
<td>ARM C: Pertuzumab</td>
</tr>
<tr>
<td>ARM D: Perjeta plus docetaxel</td>
<td></td>
<td>ARM D: Placebo plus Herceptin (52 weeks) plus chemotherapy (6-8 cycles)</td>
</tr>
<tr>
<td><strong>Primary endpoint</strong></td>
<td>Pathologic complete response (pCR)</td>
<td>Safety</td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td>Primary endpoint met in 2010</td>
<td>Positive safety and efficacy data presented at SABCS 2011</td>
</tr>
<tr>
<td></td>
<td>Data presented at SABCS 2010</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Biomarker data presented SABCS 2011</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Filed in US Q2 2013</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Priority review granted Q2 2013</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EU submission under evaluation</td>
<td></td>
</tr>
</tbody>
</table>

---

FEC = Fluorouracil, Epirubicin, and Cyclophosphamide; TCH = Docetaxel, Carboplatin, Herceptin; SABCS=San Antonio Breast Cancer Symposium.
Perjeta
First in a new class of HER dimerization inhibitors

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Second-line HER2-positive metastatic breast cancer</th>
<th>Advanced HER2-positive gastric cancer</th>
<th>Advanced HER2-positive gastric cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase/ study</td>
<td>Phase II PHEREXA</td>
<td>Phase IIa JOSHUA</td>
<td>Phase III JACOB</td>
</tr>
<tr>
<td># of patients</td>
<td>N=450</td>
<td>N=30</td>
<td>N=780</td>
</tr>
<tr>
<td>Design</td>
<td>• ARM A: Herceptin plus Xeloda</td>
<td>• ARM A: Perjeta (840mg loading, 420mg q3w) plus Herceptin and chemotherapy</td>
<td>• ARM A: Perjeta (840mg loading, 420mg q3w) plus Herceptin and chemotherapy</td>
</tr>
<tr>
<td></td>
<td>• ARM B: Perjeta plus Herceptin and Xeloda</td>
<td>• ARM B: Placebo plus Herceptin and chemotherapy</td>
<td>• ARM B: Placebo plus Herceptin and chemotherapy</td>
</tr>
<tr>
<td>Primary endpoint</td>
<td>• Progression-free survival</td>
<td>• Safety, efficacy</td>
<td>• Overall survival</td>
</tr>
<tr>
<td>Status</td>
<td>• FPI Q1 2010</td>
<td>• Enrolment completed Q4 2012</td>
<td>• FPI Q2 2013</td>
</tr>
</tbody>
</table>
Kadcyla (T-DM1)
Evaluating new treatment options in HER2-positive breast cancer

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Patients who have progressed on HER2 targeted treatment</th>
<th>Pretreated HER2 pos. metastatic breast cancer¹</th>
<th>Previously untreated HER2 pos. metastatic breast cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase/study</td>
<td>Phase III TH3RESA</td>
<td>Phase III EMILIA</td>
<td>Phase III MARIANNE</td>
</tr>
<tr>
<td># of patients</td>
<td>N=600</td>
<td>N=991</td>
<td>N=1,092</td>
</tr>
<tr>
<td>Design</td>
<td>• ARM A: Kadcyla 3.6mg/kg q3w</td>
<td>• ARM A: Kadcyla 3.6mg/kg q3w</td>
<td>• ARM A: Herceptin plus taxane</td>
</tr>
<tr>
<td></td>
<td>• ARM B: physician’s choice</td>
<td>• ARM B: Xeloda plus lapatinib</td>
<td>• ARM B: Kadcyla 3.6mg/kg q3w plus Perjeta</td>
</tr>
<tr>
<td></td>
<td>• ARM C: Kadcyla 3.6 mg/kg q3w plus placebo</td>
<td></td>
<td>• ARM C: Kadcyla 3.6 mg/kg q3w plus placebo</td>
</tr>
<tr>
<td>Primary endpoint</td>
<td>• Progression free survival and overall survival</td>
<td>Co-primary endpoints:</td>
<td>• Progression-free survival assessed by IRF</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Progression-free survival (PFS)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Overall survival</td>
<td></td>
</tr>
<tr>
<td>Status</td>
<td>• PFS endpoint met Q2 2013</td>
<td>PFS data presented at ASCO 2012</td>
<td>Recruitment completed Q2 2012</td>
</tr>
<tr>
<td></td>
<td>• Data to be submitted to ESMO 2013</td>
<td>OS data presented at ESMO 2012</td>
<td>Expect data 2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Submitted for FDA and EMA approval Q3 2012</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>FDA approval granted Q1 2013</td>
<td></td>
</tr>
</tbody>
</table>

In collaboration with ImmunoGen, Inc.

¹ Patients must have received prior treatment which included both: a taxane, alone or in combination with another agent, and Herceptin in the adjuvant, locally advanced, or metastatic setting.

ASCO=American Society of Clinical Oncology; ESMO=European Society for Medical Oncology
### Kadcyla (T-DM1)

**Evaluating new treatment options in HER2-positive breast and gastric cancers**

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Neoadjuvant/Adjuvant breast cancer</th>
<th>HER2-positive early breast cancer high-risk patients</th>
<th>HER2-positive advanced gastric cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase/study</strong></td>
<td>Phase II Cardiac safety study</td>
<td>Phase III KATHERINE</td>
<td>Phase II/III GATSBY</td>
</tr>
<tr>
<td><strong># of patients</strong></td>
<td>N=135</td>
<td>N=1,484</td>
<td>N=412</td>
</tr>
</tbody>
</table>
| **Design**         | • **Single ARM**: Kadcyla 3.6mg/kg q3w administered immediately following completion of anthracycline chemotherapy | • **ARM A**: Kadcyla 3.6mg/kg q3w  
• **ARM B**: Herceptin | • **ARM A**: Kadcyla 3.6mg/kg q3w  
• **ARM B**: Kadcyla 2.4mg/kg weekly  
• **ARM C**: Docetaxel or paclitaxel |
| **Primary endpoint** | • Cardiac event rate  
• Safety | • Invasive disease-free survival (IDFS) | • Phase II: Dose-finding  
• Phase III: Overall survival |
| **Status**         | • Completed enrolment Q2 2011  
• Interim data presented at ASCO 2012 | • FPI April 2013 | • FPI Q3 2012 |

In collaboration with ImmunoGen, Inc.

ASCO = American Society of Clinical Oncology
# Tarceva

*New approaches to treating lung cancer*

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Adjuvant non-small cell lung cancer</th>
<th>First-line metastatic non-small cell lung cancer EGFR mutation-positive</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase/study</strong></td>
<td>Phase III RADIANT</td>
<td>Phase III EURTAC</td>
</tr>
<tr>
<td><strong># of patients</strong></td>
<td>N=974 (2:1 randomisation)</td>
<td>N=174</td>
</tr>
</tbody>
</table>
| **Design**         | • Following surgical resection adjuvant chemotherapy:  
|                    | • **ARM A**: Tarceva up to 2 years  
|                    | • **ARM B**: Placebo up to 2 years  | • **ARM A**: Tarceva  
|                    |                                    | • **ARM B**: Chemotherapy (platinum-based doublet) |
| **Primary endpoint**| • Disease-free survival  
|                    | • EGFR IHC and/or FISH-positive     | • Progression-free survival                    |
| **Status**         | • Enrolment completed Q3 2010  
|                    | • Expect final results H2 2013     | • Study met its primary endpoint Q1 2011  
|                    |                                    | • Data presented at ASCO 2011  
|                    |                                    | • EU granted approval in Q3 2011  
|                    |                                    | • FDA approval granted Q2 2013      |

Tarceva is a registered trademark of OSI Pharmaceuticals, LLC, a subsidiary of Astellas US, LLC

ASCO=American Society of Clinical Oncology.
Zelboraf®
A selective novel small molecule that inhibits mutant BRAF

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Adjuvant therapy in patients with resected cutaneous BRAF mutation positive melanoma</th>
<th>Previously treated papillary thyroid cancer BRAF mutation positive</th>
<th>Melanoma patients with brain metastases BRAF mutation positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase/study</td>
<td>Phase III BRIM8</td>
<td>Phase II</td>
<td>Phase II</td>
</tr>
<tr>
<td># of patients</td>
<td>N=725</td>
<td>N=50</td>
<td>N=132</td>
</tr>
<tr>
<td>Design</td>
<td>52-week treatment</td>
<td>• <strong>Single ARM:</strong> Zelboraf</td>
<td>• <strong>Single ARM:</strong> Zelboraf</td>
</tr>
<tr>
<td></td>
<td>• ARM A: Zelboraf 960mg bid</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• ARM B: Placebo</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary endpoint</td>
<td>• Disease-free survival</td>
<td>• Best overall response rate</td>
<td>• Overall response rate in the brain</td>
</tr>
<tr>
<td>Status</td>
<td>• FPI Q3 2012</td>
<td>• FPI Q2 2011</td>
<td>• FPI Q3 2011</td>
</tr>
</tbody>
</table>

In collaboration with Plexxikon, a member of Daiichi Sankyo Group
See also combinations with: cobimetinib (MEK inhibitor) and anti-PDL1 (RG7446)
## Erivedge

A novel small molecule inhibitor of the hedgehog signaling pathway

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Advanced basal cell carcinoma</th>
<th>Operable basal cell carcinoma</th>
<th>Locally advanced or metastatic basal cell carcinoma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase/study</td>
<td>Pivotal Phase II ERIVANCE BCC</td>
<td>Phase II</td>
<td>Phase II STEVIE</td>
</tr>
<tr>
<td># of patients</td>
<td>N=104</td>
<td>N=74</td>
<td>N=1,200</td>
</tr>
<tr>
<td>Design</td>
<td><em>Single ARM</em>: 150 mg Erivedge orally once daily until disease progression</td>
<td><em>Single ARM</em>: 150 mg Erivedge orally once daily</td>
<td><em>Single ARM</em>: 150 mg Erivedge orally once daily</td>
</tr>
<tr>
<td>Primary endpoint</td>
<td>• Overall response rate</td>
<td>• COHORT 1: Complete clearance (12 weeks Erivedge)</td>
<td>• Safety: incidence of adverse events</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• COHORT 2: Durable complete clearance (12 weeks Erivedge)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• COHORT 3: Complete clearance (16 weeks Erivedge)</td>
<td></td>
</tr>
<tr>
<td>Status</td>
<td>• Data presented at EADO June 2011, ECCO/ESMO Sep 2011, EADV Oct 2011</td>
<td>• FPI Q4 2010</td>
<td>• FPI Q2 2011</td>
</tr>
<tr>
<td></td>
<td>• EMA submission accepted Q4 2011</td>
<td>• Cohort 1 data presented at Society for Investigative Dermatology (May 2012)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• FDA granted approval Q1 2012</td>
<td>• Data published NEJM June 2012</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Data published NEJM June 2012</td>
<td>• EU conditional approval received Q2 2013</td>
<td></td>
</tr>
</tbody>
</table>

In collaboration with Curis
EADO=European Association of Dermato-Oncology; ECCO/ESMO=European Cancer Organisation/European Society for Medical Oncology; EADV=European Academy of Dermatology and Venereology
# Actemra/RoActemra

**Interleukin 6 receptor inhibitor**

## Patient population

<table>
<thead>
<tr>
<th>Early moderate-to-severe rheumatoid arthritis</th>
<th>Moderate-to-severe rheumatoid arthritis</th>
<th>Moderate-to-severe rheumatoid arthritis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase/study</td>
<td>Phase III FUNCTION</td>
<td>Phase III SUMMACTA Subcutaneous study</td>
</tr>
<tr>
<td># of patients</td>
<td>N=1,162</td>
<td>N=1,262</td>
</tr>
<tr>
<td>Design</td>
<td>104 week treatment</td>
<td>N=656</td>
</tr>
<tr>
<td>• ARM A: Actemra IV 8 mg/kg q4w plus placebo MTX</td>
<td>• Add-on to DMARD therapy</td>
<td>• Add-on to DMARD therapy</td>
</tr>
<tr>
<td>• ARM B: Actemra IV 8 mg/kg q4w plus MTX</td>
<td>• Weekly dosing for 104 weeks</td>
<td>• Dosing every two weeks for 104 weeks</td>
</tr>
<tr>
<td>• ARM C: Actemra IV 4 mg/kg q4w plus MTX</td>
<td>• ARM A: Actemra SC 162mg weekly plus placebo IV q4w</td>
<td>• ARM A: Actemra SC 162mg q2w</td>
</tr>
<tr>
<td>• ARM D: MTX alone</td>
<td>• ARM B: Actemra IV 8mg/kg q4w plus placebo SC weekly</td>
<td>• ARM B: Placebo SC q2w</td>
</tr>
</tbody>
</table>

## Primary endpoint

- DAS28 remission at 24 weeks, 1 year and 2 years
- ACR 20 at week 24
- ACR 20 at week 24

## Status

- Primary endpoint met Q3 2012
- Data presented at EULAR 2013
- Filing expected 2013
- Primary endpoint met Q2 2012
- Presented at ACR 2012
- Filed in US and EU in Q4 2012
- Primary endpoint met Q3 2012
- Presented at ACR 2012
- Filed in US and EU in Q4 2012

In collaboration with Chugai
MTX=methotrexate; DMARD=Disease-Modifying Anti-Rheumatic Drugs
EULAR=The European League Against Rheumatism, ACR=American College of Rheumatology

84
# Actemra/RoActemra

**Interleukin 6 receptor inhibitor**

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Systemic sclerosis</th>
<th>Polyarticular-course juvenile idiopathic arthritis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase/study</strong></td>
<td><strong>Phase II faSScinate</strong>&lt;br&gt;Proof-of-concept study</td>
<td><strong>Phase III CHERISH</strong></td>
</tr>
<tr>
<td><strong># of patients</strong></td>
<td>N=86</td>
<td>N=188</td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td>Blinded 48-week treatment with weekly dosing:&lt;br&gt;- <strong>ARM A:</strong> Actemra SC 162mg&lt;br&gt;- <strong>ARM B:</strong> Placebo SC&lt;br&gt;Open-label weekly dosing at weeks 49 to 96:&lt;br&gt;- Actemra SC 162mg</td>
<td><strong>Part I:</strong> All patients receive Actemra 8mg/kg or 10mg/kg (iv) q4w for 16 weeks&lt;br&gt;<strong>Part II:</strong> Patients with adequate response from Part I will be randomized to receive:&lt;br&gt;- <strong>ARM A:</strong> Actemra 8mg/kg or 10mg/kg (iv) q4w for up to 24 weeks + SoC*&lt;br&gt;- <strong>ARM B:</strong> Placebo + SoC*&lt;br&gt;<strong>Part III:</strong> All patients receive Actemra 8mg/kg or 10mg/kg (iv) q4w for up to another 64 weeks</td>
</tr>
<tr>
<td><strong>Primary endpoint</strong></td>
<td>• Change in modified Rodnan skin score (mRSS) at week 24&lt;br&gt;• Safety</td>
<td>• Proportion of patients with a JIA ACR30 flare by week 40 relative to week 16</td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td>• Recruitment completed Q2 2013&lt;br&gt;• Expect data H1 2014</td>
<td>• Study met primary endpoint in Q1 2012&lt;br&gt;• Submitted to FDA and EMA Q2 2012&lt;br&gt;• Approved in US and EU Q2 2013</td>
</tr>
</tbody>
</table>

*SoC=Standard of care: non-steroidal anti-inflammatory drugs, corticosteroids, methotrexate*
# Actemra/RoActemra

## Interleukin 6 receptor inhibitor

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Giant Cell Arteritis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase/study</strong></td>
<td><strong>Phase III</strong></td>
</tr>
<tr>
<td></td>
<td><strong>GiACTA</strong></td>
</tr>
<tr>
<td><strong># of patients</strong></td>
<td>N=250</td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td></td>
</tr>
<tr>
<td>Part 1: 52-week blinded period</td>
<td></td>
</tr>
<tr>
<td>• <strong>ARM A</strong>: Actemra SC 162mg qw + 26 weeks prednisone taper</td>
<td></td>
</tr>
<tr>
<td>• <strong>ARM B</strong>: Actemra SC 162mg q2w + 26 weeks prednisone taper</td>
<td></td>
</tr>
<tr>
<td>• <strong>ARM C</strong>: Placebo + 26 weeks prednisone taper</td>
<td></td>
</tr>
<tr>
<td>• <strong>ARM D</strong>: Placebo + 52 weeks prednisone taper</td>
<td></td>
</tr>
<tr>
<td>Part II:</td>
<td></td>
</tr>
<tr>
<td>• 104-week open label extension – patients in remission followed off of the study drug; Patients with active disease receive open label Actemra SC 162mg qw</td>
<td></td>
</tr>
<tr>
<td><strong>Primary endpoint</strong></td>
<td></td>
</tr>
<tr>
<td>• Proportion of patients in sustained remission at week 52</td>
<td></td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td></td>
</tr>
<tr>
<td>• FPI Jul 2013</td>
<td></td>
</tr>
</tbody>
</table>
**Xolair**

**Evaluating potential in chronic idiopathic urticaria, an IgE related disease**

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Chronic idiopathic urticaria Patients who remain symptomatic despite treatment*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase/study</strong></td>
<td><strong>Phase III ASTERIA I</strong></td>
</tr>
<tr>
<td># of patients</td>
<td>N=300</td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td>Add-on therapy to H1 anti-histamines 24 week treatment period (q4-week)</td>
</tr>
<tr>
<td></td>
<td>ARM A: Xolair 300 mg</td>
</tr>
<tr>
<td></td>
<td>ARM B: Xolair 150 mg</td>
</tr>
<tr>
<td></td>
<td>ARM C: Xolair 75 mg</td>
</tr>
<tr>
<td></td>
<td>ARM D: Placebo</td>
</tr>
<tr>
<td><strong>Primary endpoint</strong></td>
<td>Change from baseline in UAS7 weekly itch score at Week 12</td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td>Enrolment completed Q1 2012</td>
</tr>
<tr>
<td></td>
<td>Expect data presentation in 2013</td>
</tr>
<tr>
<td></td>
<td>Expect filing in 2013</td>
</tr>
</tbody>
</table>

In collaboration with Novartis

*Refractory to H1 anti-histamines, H2 blockers, and/or leukotriene receptor antagonists (LTRAs) at the time of randomization.

AAAAI = American Academy of Allergy, Asthma and Immunology

EAACI-WAO = European Academy of Allergy and Clinical Immunology – World Allergy Organization
Roche Group development pipeline

Marketed products development programmes

Roche Pharma global development programmes

Roche Pharma research and early development

Genentech research and early development

Roche Group HY 2013 results

Diagnostics

Foreign exchange rate information
**Onartuzumab (MetMAb, RG3638)**

*Anti-Met monovalent antibody that inhibits HGF-mediated activation*

<table>
<thead>
<tr>
<th>Patient population</th>
<th>2nd- and 3rd-line Met-positive metastatic NSCLC</th>
<th>1st line non-squamous NSCLC</th>
<th>1st line squamous NSCLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase/study</td>
<td>Phase III MetLung</td>
<td>Phase II</td>
<td>Phase II</td>
</tr>
<tr>
<td># of patients</td>
<td>N=490</td>
<td>N=260</td>
<td>N=110</td>
</tr>
<tr>
<td>Design</td>
<td>• <strong>ARM A</strong>: Tarceva plus onartuzumab</td>
<td>• <strong>ARM A</strong>: Onartuzumab + Avastin + paclitaxel + platinum-based chemo (cisplatin or carboplatin)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• <strong>ARM B</strong>: Tarceva plus placebo</td>
<td>• <strong>ARM B</strong>: Placebo + Avastin + paclitaxel + platinum-based chemo (cisplatin or carboplatin)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• <strong>Cohort 1</strong>: Onartuzumab + Avastin + paclitaxel + platinum-based chemo (cisplatin or carboplatin)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• <strong>Cohort 2</strong>: Onartuzumab + pemetrexed + platinum-based chemo (cisplatin or carboplatin)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• <strong>Arm B</strong>: Placebo + pemetrexed + platinum-based chemo (cisplatin or carboplatin)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• <strong>Arm A</strong>: Onartuzumab + paclitaxel + platinum-based chemo (cisplatin or carboplatin)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• <strong>Arm B</strong>: Placebo + paclitaxel + platinum-based chemo (cisplatin or carboplatin)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary endpoint</td>
<td>• Overall survival</td>
<td>• Progression-Free Survival in the ITT population</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Progression-Free Survival in Met-positive patients</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Progression-Free Survival in Met-positive patients</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Status</td>
<td>• FPI Q1 2012</td>
<td>• FPI Q2 2012</td>
<td>• FPI Q3 2012</td>
</tr>
</tbody>
</table>
**Onartuzumab (MetMAb, RG3638)**

*Anti-Met monovalent antibody that inhibits HGF-mediated activation*

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Metastatic HER2-negative gastroesophageal cancer</th>
<th>Metastatic HER2-negative gastroesophageal cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase/study</td>
<td>Phase III MetGastric</td>
<td>Phase II</td>
</tr>
<tr>
<td># of patients</td>
<td>N=800</td>
<td>N=120</td>
</tr>
<tr>
<td>Design</td>
<td>• <strong>ARM A</strong>: Onartuzumab plus mFOLFOX6</td>
<td>• <strong>ARM A</strong>: Onartuzumab plus mFOLFOX</td>
</tr>
<tr>
<td></td>
<td>• <strong>ARM B</strong>: Placebo plus mFOLFOX6</td>
<td>• <strong>ARM B</strong>: Placebo plus mFOLFOX</td>
</tr>
<tr>
<td>Primary endpoint</td>
<td>• Overall survival in Met-positive patients</td>
<td>• Progression–free survival in ITT</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Progression–free survival in pre-specified Met-positive patients</td>
</tr>
<tr>
<td>Status</td>
<td>• FPI Q4 2012</td>
<td>• FPI Q3 2012</td>
</tr>
</tbody>
</table>

mFOLFOX6=modified FOLFOX (Folinic acid, Fluorouracil, Oxaliplatin)
**Onartuzumab (MetMAb, RG3638)**

Anti-Met monovalent antibody that inhibits HGF-mediated activation

<table>
<thead>
<tr>
<th>Patient population</th>
<th>1st and 2nd-line triple negative metastatic breast cancer</th>
<th>1st-line metastatic colorectal cancer</th>
<th>Avastin-naïve recurrent glioblastoma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase</td>
<td>Phase II</td>
<td>Phase II</td>
<td>Phase II</td>
</tr>
<tr>
<td># of patients</td>
<td>N=180</td>
<td>N=188</td>
<td>N=120</td>
</tr>
<tr>
<td>Design</td>
<td><strong>ARM A</strong>: Avastin and paclitaxel plus onartuzumab</td>
<td><strong>ARM A</strong>: FOLFOX plus Avastin plus onartuzumab</td>
<td><strong>Arm A</strong>: Onartuzumab + Avastin</td>
</tr>
<tr>
<td></td>
<td><strong>ARM B</strong>: Avastin and paclitaxel plus placebo</td>
<td><strong>ARM B</strong>: FOLFOX plus Avastin plus placebo</td>
<td><strong>Arm B</strong>: Placebo + Avastin</td>
</tr>
<tr>
<td></td>
<td><strong>ARM C</strong>: Paclitaxel plus onartuzumab</td>
<td></td>
<td><strong>Arm C</strong>: Onartuzumab + Placebo</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(enrolment to arm C suspended)</td>
</tr>
<tr>
<td>Primary endpoint</td>
<td>Progression–free survival</td>
<td>Progression–free survival in ITT</td>
<td>Progression–Free Survival in the ITT population</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Progression–free survival in pre-specified Met-positive patients</td>
<td>Progression–Free Survival in Met-positive population</td>
</tr>
<tr>
<td>Status</td>
<td>Primary endpoint not met Q2 2013</td>
<td>FPI Q3 2011</td>
<td>FPI Q3 2012</td>
</tr>
<tr>
<td></td>
<td>Expect data presentation H2 2013</td>
<td>Enrolment completed Q4 2012</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Expect data 2014</td>
<td></td>
</tr>
</tbody>
</table>

FOLFOX=Folinic acid, Fluorouracil, Oxaliplatin
### Cobimetinib (RG7421, GDC-0973)

**Selective small molecule inhibitor of mitogen-activated protein kinase kinase**

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Metastatic melanoma BRAF mutation positive</th>
<th>Solid tumors</th>
<th>Solid tumors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previously untreated metastatic melanoma BRAF mutation positive</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metastatic melanoma BRAF mutation positive</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Phase/study</strong></td>
<td><strong>Phase III</strong></td>
<td><strong>Phase Ib</strong></td>
<td><strong>Phase Ib</strong></td>
</tr>
<tr>
<td>coBRIM</td>
<td>BRIM7</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong># of patients</strong></td>
<td>N=500</td>
<td>N=~100</td>
<td>N=212</td>
</tr>
<tr>
<td>Design</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARM A: Zelboraf(^1) plus cobimetinib</td>
<td>Dose escalation study evaluating Zelboraf(^1) plus cobimetinib</td>
<td>Dose escalation study evaluating cobimetinib plus pictilisib (PI3 Kinase inhibitor)</td>
<td>Dose escalation study of cobimetinib in combination with RG7440(^2) (AKT inhibitor)</td>
</tr>
<tr>
<td>ARM B: Zelboraf(^1) plus placebo</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Primary endpoint</strong></td>
<td>Progression-free survival</td>
<td>Safety/PK</td>
<td>Safety/PK</td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td>FPI Q1 2013</td>
<td>FPI Q1 2011</td>
<td>FPI Q4 2009</td>
</tr>
<tr>
<td></td>
<td>Expect data 2014</td>
<td>Data presented at ESMO 2012</td>
<td>Updated data presented at ASCO 2012</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Updated data presentation at EADO and ESMO 2013</td>
<td></td>
</tr>
</tbody>
</table>

In collaboration with Exelixis

\(^1\)Zelboraf In collaboration with Plexxikon, a member of Daiichi Sankyo Group; \(^2\)RG7440 in collaboration with Array BioPharma

ESMO = European Society for Medical Oncology; ASCO = American Society of Clinical Oncology; EADO = European Association of Dermato-Oncology
**Obinutuzumab (GA101, RG7159)**

_Type II, glycoengineered anti-CD20 monoclonal antibody_

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Front-line chronic lymphocytic leukaemia Patients with comorbidities</th>
<th>Indolent non-Hodgkin’s lymphoma MabThera/Rituxan refractory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase/study</td>
<td>Phase III CLL11</td>
<td>Phase III GADOLIN</td>
</tr>
<tr>
<td># of patients</td>
<td>N=781</td>
<td>N=360</td>
</tr>
<tr>
<td>Design</td>
<td>• <strong>ARM A</strong>: GA101 1000mg iv plus chlorambucil</td>
<td>• <strong>ARM A</strong>: GA101 1000mg iv plus bendamustine</td>
</tr>
<tr>
<td></td>
<td>• <strong>ARM B</strong>: MabThera/Rituxan plus chlorambucil</td>
<td>• <strong>ARM B</strong>: bendamustine</td>
</tr>
<tr>
<td></td>
<td>• <strong>ARM C</strong>: Chlorambucil alone</td>
<td></td>
</tr>
<tr>
<td>Primary endpoint</td>
<td>• Progression-free survival</td>
<td>• Progression-free survival</td>
</tr>
<tr>
<td>Status</td>
<td>• Recruitment completed Q2 2012</td>
<td>• FPI Q2 2010</td>
</tr>
<tr>
<td></td>
<td>• Stage 1 analysis (ARM A/B vs. ARM C) positive</td>
<td>• Expect data 2015</td>
</tr>
<tr>
<td></td>
<td>• Stage 1 analysis presented at ASCO 2013</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Breakthrough status and priority review granted Q2 2013</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Filed globally Q2 2013</td>
<td></td>
</tr>
</tbody>
</table>

In collaboration with Biogen Idec

ASCO = American Society of Clinical Oncology
Obinutuzumab (GA101, RG7159)
Type II, glycoengineered anti-CD20 monoclonal antibody

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Front-line indolent non-Hodgkin's lymphoma</th>
<th>Diffuse large B-cell lymphoma (DLBCL)</th>
<th>Previously untreated chronic lymphocytic leukaemia (CLL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase/study</td>
<td>Phase III GALLIUM</td>
<td>Phase III GOYA</td>
<td>Phase I GALTON</td>
</tr>
<tr>
<td># of patients</td>
<td>N=1,400</td>
<td>N=1,400</td>
<td>N=41</td>
</tr>
</tbody>
</table>
| Design            | • **ARM A:** GA101 1000mg iv plus chemotherapy followed by GA101 maintenance  
                      • **ARM B:** MabThera/Rituxan plus chemotherapy followed by MabThera/Rituxan maintenance  
 | • **ARM A:** GA101 1000mg iv plus CHOP  
                      • **ARM B:** MabThera/Rituxan plus CHOP  | • **Cohort A:** GA101 plus bendamustine  
                      • **Cohort B:** GA101 plus fludarabine plus cyclophosphamide  |
| Primary endpoint  | • Progression-free survival              | • Progression-free survival          | • Safety                                             |
| Status            | • FPI Q3 2011  
                      • Expect data 2017  | • FPI Q3 2011  
                      • Expect data 2015  | • Recruitment completed  
                      • Expect data presentation late 2013  |

In collaboration with Biogen Idec
CHOP=Cyclophosphamide, Doxorubicin, Vincristine and Prednisone
## Bcl-2 inhibitor (RG7601, GDC-0199)

**Novel small molecule Bcl-2 selective inhibitor**

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Relapsed/Refractory CLL with 17p deletion</th>
<th>Relapsed CLL and SLL</th>
<th>Relapsed/Refractory CLL and NHL</th>
<th>Relapsed/Refractory or previously untreated CLL</th>
<th>Relapsed/Refractory or previously untreated CLL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase/study</strong></td>
<td>Phase II</td>
<td>Phase Ib</td>
<td>Phase I</td>
<td>Phase I</td>
<td>Phase I</td>
</tr>
<tr>
<td><strong># of patients</strong></td>
<td>N=100</td>
<td>N=50</td>
<td>N=52</td>
<td>N=70</td>
<td>N=70</td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td>Single-agent RG7601</td>
<td>Dose-escalation study in combination with MabThera/Rituxan</td>
<td>Dose-escalation study</td>
<td>RG7601 in combination with MabThera/Rituxan and bendamustine</td>
<td>RG7601 in combination with obinutuzumab (GA101)</td>
</tr>
<tr>
<td><strong>Primary endpoint</strong></td>
<td>Safety/MTD</td>
<td>Safety/MTD</td>
<td>Safety/PK/Response rate</td>
<td>Safety/MTD</td>
<td>Safety/MTD</td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td>FPI Jul 2013</td>
<td>FPI Q3 2012</td>
<td>FPI Q2 2011</td>
<td>FPI Q2 2013</td>
<td>FPI Q4 2012</td>
</tr>
</tbody>
</table>

Joint project with AbbVie in collaboration with WEHI (The Walter and Eliza Hall Institute)

CLL=Chronic Lymphocytic Leukemia; NHL=Non-Hodgkin's Lymphoma; SLL=Small Lymphocytic Lymphoma

ASH=American Society of Hematology; ASCO=American Society of Clinical Oncology
**Bcl-2 inhibitor (RG7601, GDC-0199)**

*Novel small molecule Bcl-2 selective inhibitor*

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Relapsed/Refractory multiple myeloma</th>
<th>Relapsed/Refractory multiple myeloma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase/study</td>
<td><strong>Phase I</strong></td>
<td><strong>Phase I</strong></td>
</tr>
<tr>
<td># of patients</td>
<td>N=30</td>
<td>N=30</td>
</tr>
<tr>
<td>Design</td>
<td>Patients receiving Bortezomib and Dexamethasone as standard therapy: • Dose escalation cohort: RG7601+bortezomib+dexamethasone • Safety expansion cohort: RG7601+bortezomib+dexamethasone</td>
<td>• Dose escalation cohort • Safety expansion cohort</td>
</tr>
<tr>
<td>Primary endpoint</td>
<td>• Safety/MTD</td>
<td>• Safety/MTD</td>
</tr>
<tr>
<td>Status</td>
<td>• FPI Q4 2012</td>
<td>• FPI Q4 2012</td>
</tr>
</tbody>
</table>

Joint project with AbbVie in collaboration with WEHI (The Walter and Eliza Hall Institute)
# Anti-PDL1 (RG7446)

## Novel approach in cancer immunotherapy

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Locally advanced or metastatic NSCLC PD-L1 positive</th>
<th>Solid tumors</th>
<th>Previously untreated metastatic melanoma BRAF mutation positive</th>
<th>Solid tumors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase/study</strong></td>
<td>Phase II</td>
<td>Phase I</td>
<td>Phase I</td>
<td>Phase I</td>
</tr>
<tr>
<td><strong># of patients</strong></td>
<td>N=100</td>
<td>N=68</td>
<td>N=44</td>
<td>N=344</td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td>Single arm study</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 1200mg of Anti-PDL1 q3w for maximum of 16 cycles</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• ARM A: Anti-PDL1 + Avastin</td>
<td></td>
<td>• Three-arm study with different doses of anti-PDL1-Zelboraf combination</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• ARM B: Anti-PDL1 + Avastin + chemotherapy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Primary endpoint</strong></td>
<td>Efficacy and safety</td>
<td>Safety/PK</td>
<td>Safety/PK</td>
<td>Safety/PK</td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td>FPI Q2 2013</td>
<td>FPI Q2 2012</td>
<td>FPI Q3 2012</td>
<td>FPI Q2 2011</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Safety and PK data presented at AACR 2013</td>
<td>• Safety and PK data presented at ASCO 2013</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Initial efficacy data presented at ASCO 2013</td>
<td></td>
</tr>
</tbody>
</table>

AACR=American Association for Cancer Research; ASCO = American Society of Clinical Oncology
**Lebrikizumab (RG3637)**  
A humanized monoclonal antibody designed to bind specifically to IL-13

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Severe uncontrolled adult asthma</th>
<th>Adult patients whose asthma is uncontrolled with inhaled corticosteroids and a second controller medication</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase/study</strong></td>
<td><strong>Phase III LAVOLTA I</strong></td>
<td><strong>Phase III LAVOLTA II</strong></td>
</tr>
<tr>
<td># of patients</td>
<td>N=1050</td>
<td>N=1050</td>
</tr>
</tbody>
</table>
| **Design**         | Subcutaneous lebrikizumab q4w on top of SOC for 52 weeks safety follow-up  
  • **ARM A**: Lebrikizumab highest dose  
  • **ARM B**: Lebrikizumab lowest dose  
  • **ARM C**: Placebo  
  Patients will be tested for periostin level | Subcutaneous lebrikizumab q4w on top of SOC for 52 weeks safety follow-up  
  • **ARM A**: Lebrikizumab highest dose  
  • **ARM B**: Lebrikizumab lowest dose  
  • **ARM C**: Placebo  
  Patients will be tested for periostin level |
| **Primary endpoint** | • Rate of asthma exacerbations during the 52-week placebo-controlled period | • Rate of asthma exacerbations during the 52-week placebo-controlled period |
| **Status**         | • Expect FPI in Q3 2013         | • Expect FPI in Q3 2013                                                         |
# Lebrikizumab (RG3637)

*A humanized monoclonal antibody designed to bind specifically to IL-13*

---

## Severe uncontrolled adult asthma

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Adult patients whose asthma is uncontrolled with inhaled corticosteroids and a second controller medication</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Phase/study</th>
<th>Phase IIb LUTE</th>
<th>Phase IIb VERSE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong># of patients</strong></td>
<td>N=225</td>
<td>N=225</td>
</tr>
</tbody>
</table>
| **Design** | Subcutaneous lebrikizumab q4w on top of SOC for 28 to 52 weeks with a 24 week safety follow-up  
• **ARM A**: Lebrikizumab highest dose  
• **ARM B**: Lebrikizumab middle dose  
• **ARM C**: Lebrikizumab lowest dose  
• **ARM D**: Placebo  
Patients will be tested for periostin level | Subcutaneous lebrikizumab q4w on top of SOC for 28 to 52 weeks with a 24 week safety follow-up  
• **ARM A**: Lebrikizumab highest dose  
• **ARM B**: Lebrikizumab middle dose  
• **ARM C**: Lebrikizumab lowest dose  
• **ARM D**: Placebo  
Patients will be tested for periostin level |

<table>
<thead>
<tr>
<th><strong>Primary endpoint</strong></th>
<th>Rate of asthma exacerbations during the 52-week placebo-controlled period</th>
<th>Rate of asthma exacerbations during the 52-week placebo-controlled period</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Status</strong></td>
<td>Recruitment completed Q4 2012</td>
<td>Recruitment completed Q4 2012</td>
</tr>
</tbody>
</table>
### Aleglitazar (RG1439)

**A balanced PPAR co-agonist - potential to reduce cardiovascular events in type 2 diabetes patients**

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Post-ACS patients with Type 2 diabetes</th>
<th>Type 2 diabetes (US, China)</th>
<th>Stable CVD and type 2 diabetes or pre-diabetes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase/study</strong></td>
<td>Phase III AleCARDIO</td>
<td>Phase III AleGlucose program</td>
<td>Phase III AlePrevent</td>
</tr>
<tr>
<td></td>
<td>Cardiovascular outcomes study</td>
<td>Glycemic control studies</td>
<td>Cardiovascular outcomes study</td>
</tr>
<tr>
<td><strong># of patients</strong></td>
<td>N = 7,228</td>
<td>N ≈ 1,400</td>
<td>N = 19,000</td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td>• At least 2.5 years treatment period and until 950 events have occurred</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• <strong>ARM A</strong>: Aleglitazar (150 μg) on top of SoC</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• <strong>ARM B</strong>: Placebo on top of SoC</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>26 weeks treatment duration</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• <strong>ARM A</strong>: Aleglitazar (150 μg) monotherapy, add on to Metformin and Add on to Sulfonylurea with or without Metformin</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• <strong>ARM B</strong>: Placebo</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>At least 3 year treatment period and until 1260 events have occurred</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• <strong>ARM A</strong>: Aleglitazar 150 μg daily on top of SOC</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• <strong>ARM B</strong>: Placebo daily on top of SoC</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Primary endpoint</strong></td>
<td>• Reduction in cardiovascular mortality, non-fatal myocardial infarction and stroke (MACE)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Reduction from baseline in HbA1c</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Reduction in cardiovascular mortality, non-fatal myocardial infarction and stroke (MACE)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td>• All trials have been terminated due to safety signals and lack of efficacy observed during regular safety review of the AleCARDIO trial</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ACS = Acute Coronary Syndrome; MACE = Major Adverse Cardiac Events
### Bitopertin (GlyT-1, RG1678)

*A small molecule first-in-class glycin reuptake inhibitor (GRI)*

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Sub-optimally controlled symptoms of schizophrenia</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase/study</strong></td>
<td>Phase III NIGHTLYTE</td>
</tr>
<tr>
<td># of patients</td>
<td>N=600</td>
</tr>
</tbody>
</table>
| **Design**         | • Add-on therapy to anti-psychotics  
   • 52-week treatment period  
   • **ARM A:** bitopertin daily (10 mg)  
   • **ARM B:** bitopertin daily (20 mg)  
   • **ARM C:** Placebo  
|                   | • Add-on therapy to anti-psychotics  
   • 52-week treatment period  
   • **ARM A:** bitopertin daily (10 mg)  
   • **ARM B:** bitopertin daily (20 mg)  
   • **ARM C:** Placebo  
|                   | • Add-on therapy to anti-psychotics  
   • 52-week treatment period  
   • **ARM A:** bitopertin daily (5 mg)  
   • **ARM B:** bitopertin daily (10 mg)  
   • **ARM C:** Placebo  |
| **Primary endpoint** | • PANSS positive symptom factor at week 12  
|                   | • PANSS positive symptom factor at week 12  
|                   | • PANSS positive symptom factor at week 12  |
| **Status**         | • FPI Q4 2010  
|                   | • FPI Q4 2010  
|                   | • FPI Q4 2010 |

PANSS=Positive and Negative Syndrome Scale
**Bitopertin (GlyT-1, RG1678)**

*A small molecule first-in-class glycin reuptake inhibitor (GRI)*

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Persistent, predominant negative symptoms of schizophrenia</th>
<th>Obsessive-compulsive disorder</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase/study</strong></td>
<td><strong>Phase III SUNLYTE</strong></td>
<td><strong>Phase III DAYLYTE</strong></td>
</tr>
<tr>
<td><strong># of patients</strong></td>
<td>N=630</td>
<td>N=630</td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td></td>
<td><strong>ARM A</strong>: bitopertin (10 mg)</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>ARM A</strong>: bitopertin (5 mg)</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>ARM A</strong>: Placebo</td>
</tr>
<tr>
<td><strong>Primary endpoint</strong></td>
<td></td>
<td><strong>PANSS negative symptom factor at week 24</strong></td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td></td>
<td><strong>Enrolment completed Q2 2013</strong></td>
</tr>
</tbody>
</table>

PANSS=Positive and Negative Syndrome Scale
# Ocrelizumab (RG1594)

## 2nd generation anti-CD20 monoclonal antibody

## Patient population

<table>
<thead>
<tr>
<th>Phase/study</th>
<th>Relapsing multiple sclerosis (RMS)</th>
<th>Primary progressive multiple sclerosis (PPMS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase III OPERA I</td>
<td>Phase III OPERA II</td>
<td>Phase III ORATORIO</td>
</tr>
<tr>
<td><strong># of patients</strong></td>
<td><strong>N=800</strong></td>
<td><strong>N=800</strong></td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td>ARM A: Ocrelizumab 2x 300 mg iv followed by 600 mg iv every 24 weeks</td>
<td>ARM A: Ocrelizumab 2x 300 mg iv followed by 600 mg iv every 24 weeks</td>
</tr>
<tr>
<td>ARM B: Interferon β-1a</td>
<td>ARM B: Interferon β-1a</td>
<td>ARM B: Placebo</td>
</tr>
<tr>
<td><strong>Primary endpoint</strong></td>
<td>Annualized relapse rate at 96 weeks versus Rebif</td>
<td>Annualized relapse rate at 96 weeks versus Rebif</td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td>Enrolment completed Q1 2013</td>
<td>Enrolment completed Q1 2013</td>
</tr>
</tbody>
</table>
Gantenerumab (RG1450)
Fully human monoclonal antibody against amyloid-beta

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Prodromal Alzheimer’s Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase/study</td>
<td>Phase II/III SCarlet RoAD</td>
</tr>
<tr>
<td># of patients</td>
<td>N=770</td>
</tr>
</tbody>
</table>
| Design             | 104-week subcutaneous treatment period  
                      • ARM A: Gantenerumab (225 mg)  
                      • ARM B: Gantenerumab (105 mg)  
                      • ARM C: Placebo  |
| Primary endpoint   | • Change in CDR-SOB at 2 years  
                      • Sub-study: change in brain amyloid by PET at 2 years  |
| Status             | • FPI Q4 2010  
                      • Phase I PET data: Archives of Neurology 2012 Feb;69(2):198-207  |

In collaboration with Morphosys  
CDR-SOB = Clinical Dementia Rating scale Sum of Boxes
**Mericitabine (RG7128)**

*Nucleoside NS5B polymerase inhibitor added to approved protease inhibitors in prior null responders to IFN/RBV*

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Treatment-naive and failure chronic hepatitis C Genotype 1 and 4</th>
<th>Treatment-naive and failure chronic hepatitis C Genotype 1 and 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase/study</td>
<td>Phase IIb DYNAMO 1*</td>
<td>Phase IIb DYNAMO 2 Longer duration study</td>
</tr>
<tr>
<td># of patients</td>
<td>N=120</td>
<td>N= 120</td>
</tr>
</tbody>
</table>
| Design             | • **ARM A:** Boceprevir + mericitabine (1000 mg BID) + Pegasys and Copegus for 24 weeks  
• **ARM B:** Boceprevir + mericitabine (1000 mg BID) + Pegasys and Copegus for 24 weeks followed by boceprevir+Pegasys and Copegus for 24 weeks  
• **ARM C:** Boceprevir+Pegasys and Copegus for 48 weeks  
• **ARM A:** Telaprevir + mericitabine (1000 mg BID) + Pegasys and Copegus for 12 weeks, followed by + mericitabine (1000 mg BID) + Pegasys and Copegus for 12 weeks  
• **ARM B:** Telaprevir + mericitabine (1000 mg BID) + Pegasys and Copegus for 12 weeks, followed by + mericitabine (1000 mg BID) + Pegasys and Copegus for 12 weeks, followed by Pegasys and Copegus for 24 weeks  
• **ARM C:** Telaprevir + mericitabine (1000 mg BID) + Pegasys and Copegus for 12 weeks, followed by Pegasys and Copegus for 36 weeks  
• **ARM D:** Telaprevir + Pegasys and Copegus for 12 weeks, followed by Pegasys and Copegus for 36 weeks  |
| Primary endpoint   | • Sustained virological response (SVR)                       | • Sustained virological response (SVR)                       |
| Status             | • Recruitment completed Q3 2012  
• Data submitted to AASLD 2013  | • Recruitment completed Q3 2012  
• Data submitted to AASLD 2013 |
**Mericitabine, danoprevir, setrobuvir**  
*IFN-free combination of different direct-acting antivirals in treatment naïve patients*

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Hepatitis C patients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Treatment-naïve or null-responders to interferon-based treatment</td>
</tr>
</tbody>
</table>

| Phase/study | Phase II  
|-------------|________________|
| ANNAPURNA  |

<table>
<thead>
<tr>
<th># of patients</th>
<th>N=180</th>
</tr>
</thead>
</table>

| Design | • **ARM A:** GT1a including setrobuvir, danoprevir, ritonavir, ribavirin and mericitabine  
|        | • **ARM B:** GT1a including setrobuvir, danoprevir, ritonavir, ribavirin and mericitabine  
|        | • **ARM C:** GT1a including setrobuvir, danoprevir, ritonavir and ribavirin  
|        | • **ARM D:** GT1b including setrobuvir, danoprevir, ritonavir, ribavirin and mericitabine  
|        | • **ARM E:** GT1b including setrobuvir, danoprevir, ritonavir and ribavirin |

| Primary endpoint | • Sustained virological response at week 12 after the end of the study treatment |

| Status | • FPI Q2 2012  
|        | • Recruitment Part 1 completed in Q4 2012  
|        | • Interim data submitted to AASLD 2013 |

Mericitabine (RG7128) licensed from Pharmasset, now part of Gilead; Danoprevir=RG7227; Setrobuvir=RG7790  
AASLD=American Association for the Study of Liver Diseases
**Danoprevir, mericitabine**

*Comparing IFN-free, IFN-based triple and IFN-based quad regimens in patients who failed IFN/RBV*

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Treatment-experienced chronic hepatitis C patients*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase</td>
<td><strong>Phase IIb</strong> <strong>Matterhorn</strong> Boosted Danoprevir in Triple, Quad and Interferon-free combinations</td>
</tr>
<tr>
<td># of patients</td>
<td>N=381</td>
</tr>
</tbody>
</table>

**Design**

Danoprevir boosted by low dose ritonavir in IFN-free, triple and QUAD

**Cohort A: partial responders:**
- **ARM A1:** Danoprevir 100 mg bid+ Ritonavir 100mg bid+ mericitabine 1000 mg bid + Copegus for 24 weeks
- **ARM A2:** Danoprevir 100 mg bid + Ritonavir 100mg bid+ Pegasys + Copegus for 24 weeks
- **ARM A3:** Danoprevir 100 mg bid + Ritonavir 100mg bid + mericitabine 1000 mg bid + Pegasys + Copegus for 24 weeks

**Cohort B: null responders:**
- **ARM B1:** Danoprevir 100 mg bid + Ritonavir 100mg bid + mericitabine 1000 mg bid + Copegus for 24 weeks
- **ARM B2:** Danoprevir 100 mg bid + Ritonavir 100mg bid+ mericitabine 1000 mg bid + Pegasys + Copegus for 24 weeks
- **ARM B3:** Danoprevir 100 mg bid+ Ritonavir 100mg bid + mericitabine 1000 mg bid + Pegasys + Copegus for 24 weeks, followed by 24 weeks Pegasys + Copegus

**Primary endpoint**
- Sustained virological response 24 weeks after the end of study treatment

**Status**
- Recruitment completed Q3 2011
- Preliminary data presented at AASLD 2012
- Manuscript submission late 2013

Mericitabine (RG7128) licensed from Pharmasset, now part of Gilead; Danoprevir=RG7227

AASLD=American Association for the Study of Liver Diseases
Roche Group development pipeline

Marketed products development programmes

Roche Pharma global development programmes

Roche Pharma research and early development

Genentech research and early development

Roche Group HY 2013 results

Diagnostics

Foreign exchange rate information
## Oncology development programmes

### Small molecules

<table>
<thead>
<tr>
<th>Molecule</th>
<th>MDM2 antagonist (RG7112)</th>
<th>MDM2 (6) antagonist (RG7388)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient population</strong></td>
<td>Advanced solid tumors</td>
<td>Hematologic neoplasms (Leukaemia)</td>
</tr>
<tr>
<td><strong>Phase</strong></td>
<td>Phase I</td>
<td>Phase I</td>
</tr>
<tr>
<td><strong># of patients</strong></td>
<td>N=105</td>
<td>N=90</td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td>• Multiple ascending dose-escalation study</td>
<td>• Multiple ascending dose-escalation study</td>
</tr>
<tr>
<td><strong>Primary endpoint</strong></td>
<td>• MTD</td>
<td>• MTD</td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td>• Study completed Q2 2011</td>
<td>• Study completed Q3 2012</td>
</tr>
<tr>
<td></td>
<td>• Phase Ib completed Q1 2013</td>
<td>• Data presented at ASH 2012</td>
</tr>
<tr>
<td></td>
<td>• Decision made to discontinue RG7112 program and move RG7388 forward</td>
<td>• Phase Ib completed Q1 2013</td>
</tr>
</tbody>
</table>
## Oncology development programmes

### Small molecules

<table>
<thead>
<tr>
<th>Molecule</th>
<th>MEK inhibitor (CIF, RG7167)</th>
<th>Raf/MEK inhibitor (CKI27, RG7304)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient population</strong></td>
<td>Solid tumors</td>
<td>Solid tumors</td>
</tr>
<tr>
<td>Phase</td>
<td>Phase I</td>
<td>Phase I</td>
</tr>
<tr>
<td># of patients</td>
<td>N=144</td>
<td>N=52</td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td>• Dose-escalation, followed by expansion into 4 cohorts in specific indications</td>
<td>• Dose-escalation to MTD</td>
</tr>
<tr>
<td><strong>Primary endpoint</strong></td>
<td>• MTD and tumor assessment</td>
<td>• MTD and tumor assessment</td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td>• Recruitment into expansion cohorts completed Q4 2011 • Data presented at EORTC-NCI-AACR 2012</td>
<td>• Initiated Q4 2008 • Enrolment stopped in Q4 2010</td>
</tr>
<tr>
<td><strong>Collaborator</strong></td>
<td></td>
<td>Chugai</td>
</tr>
</tbody>
</table>

EORTC=European Organisation for Research and Treatment of Cancer; AACR=American Association for Cancer Research
# Oncology development programmes

## Small molecules

| Molecule | ALK inhibitor  
|-----------|-------------------
|           | (RG7853, AF802)   |

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Non-small cell lung cancer</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Phase</th>
<th>Phase I</th>
<th>Phase II</th>
</tr>
</thead>
<tbody>
<tr>
<td># of patients</td>
<td>N=90-100</td>
<td>N=215</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Design</th>
<th>Dose escalation to MTD</th>
<th>Patients with ALK mutation that failed crizotinib</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Part 1: Dose escalation monotherapy</td>
<td>• Part 2: Monotherapy, dose selected based on the results of Part 1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Primary endpoint</th>
<th>Safety and efficacy</th>
<th>Safety and efficacy</th>
</tr>
</thead>
</table>

| Status | Study in crizotinib-naïve patients in Japan completed; crizotinib-failure patients in US ongoing | FPI Q2 2013  
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Results: Lancet Oncology 2013 Jun;14(7):590-8</td>
<td>• Data to be submitted to ESMO 2013</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Collaborator</th>
<th>Chugai</th>
</tr>
</thead>
</table>

ESMO=European Society for Medical Oncology
## Oncology Development Programmes

### Monoclonal Antibodies

#### Molecule

- **Anti-glypican-3 MAb**
  - (GC33, RG7686)

- **Anti-CD44 MAb**
  - (RG7356)

### Patient Population

- **Metastatic liver cancer (hepatocellular carcinoma)**
- **2L metastatic liver cancer (hepatocellular carcinoma)**
- **Solid tumors**
- **Acute myelogenous leukemia**

### Phase

- **Phase Ib**
- **Phase II**
- **Phase I**

### # of Patients

- **N = 40-50**
- **N = 171**
- **N = 50-70**
- **N = 86**

### Design

- **Study US monotherapy**
- **Study Japan monotherapy**
- **Dose escalation study in combo with SoC**
- **Adaptive design study**
  - Double blind randomized 2:1
  - RG7686 : placebo
  - Patients are stratified according to the level of GPC-3 expression in tumor
- **Multiple ascending dose study with extension and imaging arm**
- **Multiple ascending dose study +/- cytarabine**

### Primary Endpoint

- **Safety and tolerability**
- **Progression-free survival**
- **Safety (MTD), PK, PD, preliminary clinical activity**
- **Safety (MTD), PK, PD, preliminary clinical activity**

### Status

- **FPI Q4 2008**
- **Dose escalation completed for US and Japan monotherapy studies**
- **Dose escalation ongoing for Ph1B combo with SoC**
- **Recruitment completed Q1 2013**
- **Final results expected H2 2013**
- **FPI Q2 2011**
- **FPI Q3 2012**

### Collaborator

- Chugai

---

SoC = standard of care
**Oncology development programmes**

**Monoclonal antibodies (continued)**

<table>
<thead>
<tr>
<th>Molecule</th>
<th>Anti-TWEAK MAb (RG7212)</th>
<th>GE-huMAb HER3 (RG7116)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient population</strong></td>
<td>Solid tumors</td>
<td>Solid tumors</td>
</tr>
<tr>
<td><strong>Phase</strong></td>
<td>Phase I</td>
<td>Phase I</td>
</tr>
<tr>
<td><strong># of patients</strong></td>
<td>N=50</td>
<td>N=105</td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td>• Multiple ascending dose study</td>
<td>• Multiple ascending dose study with extension cohorts and imaging sub-study</td>
</tr>
<tr>
<td><strong>Primary endpoint</strong></td>
<td>• Safety, PK, PD</td>
<td>• Safety, PK</td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td>• FPI Q3 2011</td>
<td>• FPI Q4 2011</td>
</tr>
</tbody>
</table>
### Oncology development programmes

**Monoclonal antibodies (continued)**

<table>
<thead>
<tr>
<th>Molecule</th>
<th>CSF-1R huMAb (RG7155)</th>
<th>Ang2-VEGF MAb (RG7221)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient population</strong></td>
<td>Solid tumours</td>
<td>Solid tumours</td>
</tr>
<tr>
<td><strong>Phase</strong></td>
<td>Phase I</td>
<td>Phase I</td>
</tr>
<tr>
<td><strong># of patients</strong></td>
<td>N≈95</td>
<td>N≈80</td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td>• Multiple ascending dose study +/- paclitaxel with extension cohorts</td>
<td>• Multiple ascending dose study with extension cohort to assess the PD effects</td>
</tr>
<tr>
<td><strong>Primary endpoint</strong></td>
<td>• Safety, PK, PD &amp; preliminary clinical activity</td>
<td>• Safety</td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td>• FPI Q4 2011</td>
<td>• FPI Q4 2012</td>
</tr>
<tr>
<td></td>
<td>• Biomarker data presented at AACR 2013</td>
<td></td>
</tr>
</tbody>
</table>
# Imgatuzumab (GA201, RG7160)

**Glycoengineered enhanced ADCC/anti-EGFR monoclonal antibody**

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Head and neck squamous cell carcinoma</th>
<th>2nd-line metastatic colorectal cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase</td>
<td>Phase I</td>
<td>Phase II</td>
</tr>
<tr>
<td></td>
<td>Mechanism of action study</td>
<td></td>
</tr>
<tr>
<td># of patients</td>
<td>N=45</td>
<td>N=160</td>
</tr>
<tr>
<td>Design</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• ARM A: GA201</td>
<td>KRAS Wild Type</td>
<td></td>
</tr>
<tr>
<td>• ARM B: Cetuximab</td>
<td>• ARM A: GA201 plus FOLFIRI</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• ARM B: Cetuximab plus FOLFIRI</td>
<td></td>
</tr>
<tr>
<td></td>
<td>KRAS Mutant</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• ARM A: GA201 plus FOLFIRI</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• ARM B: FOLFIRI alone</td>
<td></td>
</tr>
<tr>
<td>Primary endpoint</td>
<td>Pharmacodynamics</td>
<td>PFS</td>
</tr>
<tr>
<td>Status</td>
<td>• Recruitment completed Q1 2012</td>
<td>• Recruitment completed Q3 2012</td>
</tr>
<tr>
<td></td>
<td>• Data presented at ASCO 2012</td>
<td>• No improvement in PFS in GA201-containing arms in either K-ras wild type or K-ras mutant populations</td>
</tr>
</tbody>
</table>

ASCO=American Society of Clinical Oncology.
### Metabolic development programmes

#### Molecule

*Inclacumab*

(P-selectin huMAb, RG1512)

#### Patient population

<table>
<thead>
<tr>
<th>Prevention of saphenous vein graft disease</th>
<th>Acute Coronary Syndrome (ACS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients undergoing coronary artery bypass graft (CABG) surgery</td>
<td>Patients undergoing Percutaneous Coronary Intervention (PCI)</td>
</tr>
</tbody>
</table>

#### Phase/study

<table>
<thead>
<tr>
<th>Phase II SELECT-CABG</th>
<th>Phase II SELECT-ACS</th>
</tr>
</thead>
</table>

#### # of patients

| N=384 | N=516 |

#### Design

- **ARM A**: Inclacumab (20 mg/kg)  
- **ARM B**: Placebo  
- **ARM A**: Inclacumab (5 mg/kg)  
- **ARM B**: Inclacumab (20 mg/kg)  
- **ARM C**: Placebo

- Single infusion

#### Primary Endpoint

- Sapheneous vein graft re-occlusion  
- Procedural damage (troponin)

#### Status

- Recruitment completed Q2 2012  
- Data expected in 2013

- FPI Q2 2011  
- Data presented at ACC 2013

#### Collaborator

Genmab
Metabolic development programmes

<table>
<thead>
<tr>
<th>Molecule</th>
<th>GLP-1/GIP dual agonist (MAR709, RG7697)</th>
<th>NME (RG7410)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient population</td>
<td>Type 2 diabetes</td>
<td>Metabolic diseases</td>
</tr>
<tr>
<td>Phase/study</td>
<td>Phase I</td>
<td>Phase I</td>
</tr>
<tr>
<td># of patients</td>
<td>N=48</td>
<td>N=24</td>
</tr>
<tr>
<td>Design</td>
<td>• ARM A: RG7697 SC</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• AMR B: placebo</td>
<td>• Single dose of RG7410</td>
</tr>
<tr>
<td>Primary Endpoint</td>
<td>• Safety, PK</td>
<td>• Safety</td>
</tr>
<tr>
<td>Status</td>
<td>• MAD study ongoing</td>
<td>• FSI Jul 2013</td>
</tr>
<tr>
<td>Collaborator</td>
<td>Marcadia Biotech, Inc. acquisition</td>
<td></td>
</tr>
</tbody>
</table>

FSI=First Subject In
# Neuroscience development programmes

## Molecule

<table>
<thead>
<tr>
<th>Molecule</th>
<th>Monoamine oxidase type B (MAO-B) inhibitor</th>
<th>BACE1 inhibitor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(RG1577, EVT-302)</td>
<td>(RG7129)</td>
</tr>
</tbody>
</table>

## Patient population

<table>
<thead>
<tr>
<th>Phase</th>
<th>Alzheimer’s Disease</th>
<th>Alzheimer's Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase IIb MAyflOwer RoAD</td>
<td>Phase I/II</td>
<td>Phase I</td>
</tr>
</tbody>
</table>

## # of patients

<table>
<thead>
<tr>
<th># of patients</th>
<th>Phase IIb MAyflOwer RoAD</th>
<th>Phase I/II</th>
<th>Phase I</th>
</tr>
</thead>
<tbody>
<tr>
<td>N=495</td>
<td></td>
<td>N=24</td>
<td>N=175</td>
</tr>
</tbody>
</table>

## Design

<table>
<thead>
<tr>
<th>Design</th>
<th>Alzheimer’s Disease</th>
<th>Alzheimer’s Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>52-week oral treatment</td>
<td>Single ascending dose-escalation study</td>
</tr>
<tr>
<td>ARM A:</td>
<td>RG1577 (dose 1)</td>
<td>Multiple ascending dose-escalation study</td>
</tr>
<tr>
<td>ARM B:</td>
<td>RG1577 (dose 2)</td>
<td>CSF biomarker study</td>
</tr>
<tr>
<td>ARM C:</td>
<td>placebo</td>
<td></td>
</tr>
</tbody>
</table>

## Primary endpoint

<table>
<thead>
<tr>
<th>Primary endpoint</th>
<th>Alzheimer’s Disease</th>
<th>Alzheimer’s Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Changes in ADAS-Cog at 52 weeks</td>
<td>Brain enzyme occupancy</td>
<td>Safety</td>
</tr>
</tbody>
</table>

## Status

<table>
<thead>
<tr>
<th>Status</th>
<th>Alzheimer’s Disease</th>
<th>Alzheimer’s Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FPI Q4 2012</td>
<td></td>
<td>SAD: completed</td>
</tr>
<tr>
<td>Completed Q2 2013</td>
<td></td>
<td>MAD: completed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CSF: FPI completed</td>
</tr>
</tbody>
</table>

## Collaborator

<table>
<thead>
<tr>
<th>Collaborator</th>
<th>Alzheimer’s Disease</th>
<th>Alzheimer’s Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evotec</td>
<td></td>
<td>Siena Biotech</td>
</tr>
</tbody>
</table>
### Metabotropic glutamate receptor pathway

<table>
<thead>
<tr>
<th>Molecule</th>
<th>mGlu2 Negative Allosteric Modulator (NAM) (RG1578)</th>
<th>mGlu5 Negative Allosteric Modulator (NAM) (RG7090)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient population</td>
<td>Adjunctive Treatment of Major Depressive Disorder</td>
<td>Adjunctive Treatment of Major Depressive Disorder</td>
</tr>
<tr>
<td>Adjunctive Treatment of Major Depressive Disorder</td>
<td></td>
<td>Fragile X Syndrome</td>
</tr>
<tr>
<td>Phase/study</td>
<td>Phase II ArtDeCo</td>
<td>Phase II Marigold</td>
</tr>
<tr>
<td># of patients</td>
<td>N=480</td>
<td>N=300</td>
</tr>
</tbody>
</table>
| Design | • ARM A: RG1578 5 mg  
• ARM B: RG1578 15 mg  
• ARM C: RG1578 30 mg  
• ARM D: Matching Placebo | • ARM A: RG7090 0.5 mg  
• ARM B: RG7090 1.5 mg  
• ARM C: Matching Placebo | • ARM A: RG7090 0.5 mg  
• ARM B: RG7090 1.5 mg  
• ARM C: Matching Placebo | • ARM A: RG7090 Dose A  
• ARM B: RG7090 Dose B  
• ARM C: Matching Placebo |
| Primary endpoint | • Efficacy – Montgomery Asberg Depression Rating Scale | • Efficacy – Montgomery Asberg Depression Rating Scale | • Efficacy, safety and tolerability | • Safety  
• Exploratory efficacy and tolerability |
| Status | • Recruitment ongoing  
• Expect data H1 2014 | • Recruitment ongoing  
• Expect data H2 2013 | • Recruitment ongoing  
• Expect data H1 2014 | • Recruitment initiated  
• Expect data H1 2014 |
## Neuroscience development programmes

<table>
<thead>
<tr>
<th>Molecule</th>
<th>GABRA5 negative allosteric modulator (NAM) (RG1662)</th>
<th>V1 receptor antagonist (RG7314)</th>
<th>PDE10A inhibitor (RG7203)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient population</strong></td>
<td>Down Syndrome</td>
<td>Autism</td>
<td>Schizophrenia</td>
</tr>
<tr>
<td><strong>Phase</strong></td>
<td>Phase I</td>
<td>Phase Ib</td>
<td>Phase I</td>
</tr>
<tr>
<td><strong># of patients</strong></td>
<td>N=17</td>
<td>N=33</td>
<td>N=up to 24</td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td>• Molecular and functional imaging study in individuals with DS and HV</td>
<td>• Multi-center, Randomized, Double-blind, Placebo-controlled, Multiple Dose Study in Individuals With Down Syndrome</td>
<td>• DDI study</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Primary endpoint</strong></td>
<td>• GABAA alpha5 receptor expression, occupancy and functional connectivity</td>
<td>• Safety, tolerability</td>
<td>• Safety, tolerability, PK and PD effects of multiple doses of RG7314 with a single dose of risperidone in healthy subjects</td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td>• FPI Q3 2012</td>
<td>• FPI Q4 2011</td>
<td>• FPI Q4 2012</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

DS=Down Syndrome; HV=Healthy Volunteers, DDI=Drug-Drug Interaction
Roche Group development pipeline

Marketed products development programmes

Roche Pharma global development programmes

Roche Pharma research and early development

**Genentech research and early development**

Roche Group HY 2013 results

Diagnostics

Foreign exchange rate information
# Oncology development programmes

## Monoclonal antibodies

<table>
<thead>
<tr>
<th>Molecule</th>
<th>Angiogenic signaling</th>
<th>Growth factor signaling</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Parsatuzumab</strong> (Anti-EGFL7 MAb, RG7414)</td>
<td></td>
<td><strong>Anti-HER3 EGFR DAF MAb (RG7597)</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Metastatic epithelial tumors</th>
<th>Metastatic/recurrent SCCHN*</th>
<th>KRAS wild-type metastatic colorectal cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td>First-line metastatic non-small cell lung cancer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First-line metastatic colorectal cancer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metastatic epithelial tumors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metastatic/recurrent SCCHN*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KRAS wild-type metastatic colorectal cancer</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Phase/study</th>
<th>Phase II NILE</th>
<th>Phase II CONGO</th>
<th>Phase I</th>
<th>Phase II MEHGAN</th>
<th>Phase II DARECK</th>
</tr>
</thead>
<tbody>
<tr>
<td># of patients</td>
<td>N=104</td>
<td>N=128</td>
<td>N=66</td>
<td>N=110</td>
<td>N=120</td>
</tr>
</tbody>
</table>

| Design | | | | | |
|--------| | | | | |
| • Parsatuzumab plus Avastin plus carbo/tax vs Avastin plus carbo/tax | • ARM A: Parsatuzumab plus Avastin plus FOLFOX | • ARM B: Avastin plus FOLFOX | • Dose escalation study | • ARM A: RG7597 | • ARM B: Cetuximab |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| Primary endpoint | | | | | |
|------------------| | | | | |
| • PFS | • PFS | • Safety/PK | • Progression-free survival | • Progression-free survival |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| Status | | | | | |
|--------| | | | | |
| • Enrolment completed Q3 2012 | • Enrolment completed Q3 2012 | • FPI Q4 2010 | • Recruitment completed Q2 2013 | • FPI Q4 2012 |
| | | | | |

*SCCHN=Squamous Cell Carcinoma of the Head and Neck; AACR=American Association for Cancer Research; FOLFOX=Folinic acid, Fluorouracil, Oxaliplatin; FOLFIRI=Folinic acid, Fluorouracil, Irinotecan
## Oncology development programmes

### Antibody drug conjugates

<table>
<thead>
<tr>
<th>Molecule</th>
<th>Anti-STEAP1 ADC (RG7450)</th>
<th>Anti-MUC16 ADC (RG7458)</th>
<th>NME ADC (RG7598)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient population</strong></td>
<td>Prostate cancer</td>
<td>Ovarian cancer</td>
<td>Multiple myeloma</td>
</tr>
<tr>
<td><strong>Phase</strong></td>
<td>Phase I</td>
<td>Phase I</td>
<td>Phase I</td>
</tr>
<tr>
<td><strong># of patients</strong></td>
<td>N=49</td>
<td>N=57</td>
<td>N=30-45</td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td>• Dose escalation study</td>
<td>• Dose escalation study</td>
<td>• Dose escalation study</td>
</tr>
<tr>
<td><strong>Primary endpoint</strong></td>
<td>• Safety</td>
<td>• Safety/PK</td>
<td>• Safety</td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td>• FPI Q1 2011</td>
<td>• FPI Q2 2011</td>
<td>• FPI Q3 2011</td>
</tr>
<tr>
<td><strong>Collaborator</strong></td>
<td>Seattle Genetics</td>
<td></td>
<td>Seattle Genetics</td>
</tr>
<tr>
<td></td>
<td>and Agensys</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

AACR=American Association for Cancer Research, ASCO=American Society of Clinical Oncology
# Antibody drug conjugates (ADCs)

<table>
<thead>
<tr>
<th>Molecule</th>
<th>Anti-NaPi ADC ADC (RG7599)</th>
<th>NME ADC (RG7600)</th>
<th>Anti-ETBR ADC (RG7636)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient population</strong></td>
<td>NSCLC and ovarian cancer</td>
<td>Pancreatic and ovarian cancer</td>
<td>Metastatic or unresectable melanoma</td>
</tr>
<tr>
<td><strong>Phase</strong></td>
<td>Phase I</td>
<td>Phase I</td>
<td>Phase I</td>
</tr>
<tr>
<td><strong># of patients</strong></td>
<td>N=70</td>
<td>N=66-96</td>
<td>N=44-64</td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td>• Dose escalation study</td>
<td>• Dose escalation study</td>
<td>• Dose escalation study</td>
</tr>
<tr>
<td><strong>Primary endpoint</strong></td>
<td>• Safety</td>
<td>• Safety</td>
<td>• Safety</td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td>• FPI Q2 2011</td>
<td>• FPI Q4 2011</td>
<td>• FPI Q1 2012</td>
</tr>
<tr>
<td><strong>Collaborator</strong></td>
<td>Seattle Genetics</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Oncology development programmes

### ADC’s for hematological cancers

### Antibody drug conjugates (ADCs)

<table>
<thead>
<tr>
<th>Molecule</th>
<th>Anti-CD22 ADC (RG7593)</th>
<th>Anti-CD22 ADC (RG7593) vs. Anti-CD79b ADC (RG7596)</th>
<th>Anti-CD79b (RG7596)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient population</strong></td>
<td>Hematologic malignancies</td>
<td>Non-Hodgkin’s Lymphoma</td>
<td>Hematologic malignancies</td>
</tr>
<tr>
<td><strong>Phase</strong></td>
<td>Phase I</td>
<td>Phase II</td>
<td>Phase I</td>
</tr>
<tr>
<td><strong># of patients</strong></td>
<td>N=76</td>
<td>N=120</td>
<td>N=99</td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td>Dose escalation study</td>
<td>RG7593 plus Rituxan</td>
<td>Dose escalation study</td>
</tr>
<tr>
<td></td>
<td></td>
<td>RG7596 plus Rituxan</td>
<td></td>
</tr>
<tr>
<td><strong>Primary endpoint</strong></td>
<td>Safety</td>
<td>Safety and anti-tumor activity</td>
<td>Safety</td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td>Recruitment completed Q4 2012</td>
<td>Dose escalation data presented at ASH 2012</td>
<td>Recruitment completed Q4 2012</td>
</tr>
<tr>
<td></td>
<td>Dose escalation data presented at ASH 2012</td>
<td>Efficacy data presented at ICML 2013</td>
<td>Dose escalation data presented at ASH 2012</td>
</tr>
<tr>
<td></td>
<td>FPI Q3 2012</td>
<td></td>
<td>Efficacy data presented at ICML 2013</td>
</tr>
<tr>
<td><strong>Collaborator</strong></td>
<td></td>
<td></td>
<td>Seattle Genetics</td>
</tr>
</tbody>
</table>

ASH=American Society of Hematology; ICML=International Conference on Malignant Lymphoma
# Oncology development programmes

## Small molecules

<table>
<thead>
<tr>
<th>Molecule</th>
<th>PI3K signaling</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pictilisib (PI3 Kinase inhibitor, GDC-0941, RG7321)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Patient population</th>
<th>2L ER+ metastatic breast cancer</th>
<th>Previously untreated advanced or recurrent NSCLC</th>
<th>Locally recurrent or metastatic HER2-negative HR-positive breast cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase</td>
<td>Phase II FERGI</td>
<td>Phase II FIGARO</td>
<td>Phase II PEGGY</td>
</tr>
<tr>
<td># of patients</td>
<td>N=340</td>
<td>N=302</td>
<td>N=180</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Design</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ARM A: Pictilisib plus hormonal therapy</td>
<td>ARM A: Pictilisib + carboplatin + paclitaxel</td>
<td>ARM A: Pictilisib + paclitaxel</td>
</tr>
<tr>
<td></td>
<td>ARM B: RG7422 plus hormonal therapy</td>
<td>ARM B: Placebo + carboplatin + paclitaxel</td>
<td>ARM B: Placebo + paclitaxel</td>
</tr>
<tr>
<td></td>
<td>ARM C: Hormonal therapy + placebo</td>
<td>ARM C: Pictilisib+ carboplatin + paclitaxel</td>
<td>ARM C: Pictilisib+ paclitaxel + bevacizumab</td>
</tr>
<tr>
<td></td>
<td>ARM D: Pictilisib+ carboplatin + paclitaxel + bevacizumab</td>
<td>ARM D: Pictilisib+ paclitaxel + bevacizumab</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Primary endpoint</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Progression-free survival</td>
<td>Progression-free survival</td>
<td>Progression-free survival</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Status</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FPI Q3 2011</td>
<td>FPI Q1 2012</td>
<td>FPI Q1 2013</td>
</tr>
</tbody>
</table>

---

**PI3K signaling**

**Molecule**

**Pictilisib** (PI3 Kinase inhibitor, GDC-0941, RG7321)

**Patient population**

- 2L ER+ metastatic breast cancer
- Previously untreated advanced or recurrent NSCLC
- Locally recurrent or metastatic HER2-negative HR-positive breast cancer

**Phase**

- Phase II FERGI
- Phase II FIGARO
- Phase II PEGGY

**# of patients**

- N=340
- N=302
- N=180

**Design**

- **ARM A**: Pictilisib plus hormonal therapy
- **ARM B**: RG7422 plus hormonal therapy
- **ARM C**: Hormonal therapy + placebo
- **ARM D**: Pictilisib+ carboplatin + paclitaxel + bevacizumab

**Primary endpoint**

- Progression-free survival

**Status**

- FPI Q3 2011
- FPI Q1 2012
- FPI Q1 2013
### Oncology development programmes

**Small molecules (continued)**

<table>
<thead>
<tr>
<th>Molecule</th>
<th>PI3 Kinase inhibitor (GDC-0032, RG7604)</th>
<th>PI3 Kinase inhibitor (GDC-0084, RG7666)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient population</strong></td>
<td>Solid tumors and HER2-negative HR-positive breast cancer</td>
<td>HER2-negative locally recurrent or metastatic breast cancer</td>
</tr>
<tr>
<td><strong>Phase</strong></td>
<td>Phase I/II</td>
<td>Phase I</td>
</tr>
<tr>
<td><strong># of patients</strong></td>
<td>N=260</td>
<td>N=65</td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Phase I</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• RG7604</td>
<td>• RG7604 plus docetaxel</td>
<td>• Dose escalation study</td>
</tr>
<tr>
<td>• RG7604 plus letrozole or fulvestrant</td>
<td>• RG7604 plus paclitaxel</td>
<td></td>
</tr>
<tr>
<td><strong>Phase II</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• RG7604 plus fulvestrant</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Primary endpoint</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Safety/PK/efficacy</td>
<td>• Safety</td>
<td>• Safety/PK</td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• FPI Q1 2011</td>
<td>• FPI Q2 2013</td>
<td>• FPI Q2 2012</td>
</tr>
<tr>
<td>• Pre-clinical and clinical data presented at AACR 2013</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

AACR=American Association for Cancer Research
Oncology development programmes
Small molecules (continued)

<table>
<thead>
<tr>
<th>PI3K signaling</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Molecule</strong></td>
<td><strong>PI3 Kinase/mTOR dual inhibitor</strong>&lt;br&gt;(GDC-0980, RG7422)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Patient population</strong></td>
<td>Renal cell carcinoma</td>
<td>2L ER+ metastatic breast cancer</td>
<td>Persistent or recurrent endometrial carcinoma</td>
<td>2L Castration-resistant prostate cancer</td>
</tr>
<tr>
<td><strong>Phase</strong></td>
<td>Phase II&lt;br&gt;ROVER</td>
<td>Phase II&lt;br&gt;FERGI</td>
<td>Phase II&lt;br&gt;MAGGIE</td>
<td>Phase Ib/II</td>
</tr>
<tr>
<td><strong># of patients</strong></td>
<td>N=80</td>
<td>N=340</td>
<td>N=50</td>
<td>N=262</td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td>• ARM A: RG7422&lt;br&gt;• ARM B: Everolimus</td>
<td>• ARM A: pictilisib plus hormonal therapy&lt;br&gt;• ARM B: RG7422 plus hormonal therapy&lt;br&gt;• ARM C: Hormonal therapy + placebo</td>
<td>Single-arm RG7422</td>
<td>• ARM A: RG7440 + abiraterone&lt;br&gt;• ARM B: RG7422 + abiraterone&lt;br&gt;• ARM C: Placebo + abiraterone</td>
</tr>
<tr>
<td><strong>Primary endpoint</strong></td>
<td>PFS</td>
<td>PFS</td>
<td>PFS</td>
<td>Safety (Ph Ib)&lt;br&gt;PFS (Ph II)</td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td>Enrolment completed Q3 2012</td>
<td>FPI Q3 2011</td>
<td>Enrolment completed Q3 2012</td>
<td>FPI Q1 2012</td>
</tr>
</tbody>
</table>
### Oncology development programmes

**Small molecules (continued)**

<table>
<thead>
<tr>
<th>Molecule</th>
<th>AKT inhibitor (GDC-0068, RG7440)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient population</strong></td>
<td><strong>Solid tumors</strong></td>
</tr>
<tr>
<td>Phase</td>
<td>Phase Ib</td>
</tr>
<tr>
<td># of patients</td>
<td>N=90</td>
</tr>
</tbody>
</table>
| Design | Dose escalation with:  
- **ARM A**: docetaxel or  
- **ARM B**: fluoropyrimidine plus oxaliplatin or  
- **ARM C**: paclitaxel |  
- **ARM A**: RG7440 + abiraterone  
- **ARM B**: RG7422 + abiraterone  
- **ARM C**: Placebo + abiraterone |  
- Dose escalations study of cobimetinib (MEK inhibitor)* in combination with RG7440 |  
- **ARM A**: RG7440 + mFOLFOX6  
- **ARM B**: Placebo + mFOLFOX6 |
| Primary endpoint |  
- Safety  
- Safety (Ph IB)  
- PFS (Ph II) |  
- Safety/PK |  
- FPI Q2 2012 |  
- Expect FPI in Q3 2013 |
| Status |  
- FPI Q3 2011  
- Data presented at ASCO and ESMO 2012 |  
- FPI Q1 2012 |  
- FPI Q2 2012 |
| Collaborator | Array BioPharma |

*Cobimetinib in collaboration with Exelixis*

ASCO=American Society of Clinical Oncology; ESMO=European Society for Medical Oncology

mFOLFOX6=modified FOLFOX (Folinic acid, Fluorouracil, Oxaliplatin)
## Oncology development programmes

### Small molecules (continued)

<table>
<thead>
<tr>
<th>Molecule</th>
<th>MEK inhibitor (GDC-0623, RG7420)</th>
<th>ChK1 inhibitor (GDC-0425, RG7602)</th>
<th>ChK1 inhibitor (GDC-0575, RG7741)</th>
<th>NME (RG7842, GDC-0094)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient population</strong></td>
<td>Solid tumors</td>
<td>Solid tumors or lymphoma</td>
<td>Solid tumors or lymphoma</td>
<td>Solid tumors</td>
</tr>
<tr>
<td><strong>Phase I</strong></td>
<td>Phase I</td>
<td>Phase I</td>
<td>Phase I</td>
<td>Phase I</td>
</tr>
<tr>
<td><strong># of patients</strong></td>
<td>N=60</td>
<td>N=75</td>
<td>N=45</td>
<td>N=78</td>
</tr>
</tbody>
</table>
| **Design**            | Dose escalation study            | Dose escalation study             | Dose escalation study             | Stage 1: dose escalation  
Stage 2: cohort expansion |
| **Primary endpoint**  | Safety/PK                        | Safety/PK                         | Safety/PK                         | Safety, MTD, PK        |
| **Status**            | FPI Q2 2010                      | FPI Q3 2011                       | FPI Q2 2012                       | FPI Q2 2013            |
| **Collaborator**      |                                  | Array BioPharma                   |                                   |                        |
## Immunology development programmes

<table>
<thead>
<tr>
<th>Molecule</th>
<th>Quilizumab (Anti-M1 prime, RG7449)</th>
<th>Etrolizumab (rhuMAb-β7, (RG7413))</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient population</strong></td>
<td>Allergic asthma - inadequately controlled</td>
<td>Ulcerative colitis</td>
</tr>
<tr>
<td><strong>Phase/study</strong></td>
<td>Phase IIb COSTA</td>
<td>Phase II EUCALYPTUS</td>
</tr>
<tr>
<td><strong># of patients</strong></td>
<td>N=560</td>
<td>N=120</td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td>SC administration on top of SoC</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• <strong>ARM A</strong>: RG7449 300mg</td>
<td>• <strong>ARM A</strong>: RhuMAb-β7 (100 mg) plus immunosuppressant</td>
</tr>
<tr>
<td></td>
<td>• <strong>ARM B</strong>: RG7449 150mg</td>
<td>• <strong>ARM B</strong>: RhuMAb-β7 (300 mg) plus immunosuppressant</td>
</tr>
<tr>
<td></td>
<td>• <strong>ARM C</strong>: RG7449 450mg</td>
<td>• <strong>ARM C</strong>: Placebo plus immunosuppressant</td>
</tr>
<tr>
<td></td>
<td>• <strong>ARM D</strong>: Placebo</td>
<td></td>
</tr>
<tr>
<td><strong>Primary endpoint</strong></td>
<td>• Rate of protocol-defined exacerbations from baseline to week 36</td>
<td>• Clinical Remission (Mayo Clinic Score) at Week 10</td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td>• FPI Q2 2012</td>
<td>• Primary endpoint met Q4 2012</td>
</tr>
<tr>
<td></td>
<td>• Data presented at DDW 2013</td>
<td></td>
</tr>
</tbody>
</table>

SoC=Standard of Care, DDW=Digestive Disease Week
<table>
<thead>
<tr>
<th>Molecule</th>
<th>Rontalizumab (Anti-INFAlpha, RG7415)</th>
<th>anti-IL17 (RG7624)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient population</td>
<td>Systemic lupus erythematosus</td>
<td>Autoimmune diseases</td>
</tr>
<tr>
<td>Phase/study</td>
<td>Phase II ROSE</td>
<td>Phase Ib</td>
</tr>
<tr>
<td># of patients</td>
<td>N=238</td>
<td>N=21</td>
</tr>
</tbody>
</table>
| Design | • ARM A: Placebo  
  • Part 1 – iv  
  • Part 2 - sc  
  • ARM B: Rontalizumab  
  • Part 1 – iv  
  • Part 2 – sc | • Randomized, double-blind, placebo-controlled, multiple ascending dose escalation study |
| Primary endpoint | • Proportion of responders at Week 24 | • Safety and tolerability |
| Status | • Enrolment completed Q3 2010  
  • Data presented at ACR 2012 | • Enrolment completed Q2 2012 |
| Collaborator | | NovImmune |
# Neuroscience and ophthalmology development programmes

| Molecule | Crenezumab  
| (Anti-Αβ, RG7412) | Lampalizumab  
| (Anti-Factor D, RG7417) |
| --- | --- |
| **Patient population** | Alzheimer’s Disease | Geographic atrophy (GA) secondary to age-related macular degeneration |
| **Phase/study** | **Phase II** ABBY Cognition study | **Phase II** BLAZE Biomarker study | **Phase Ib/II MAHALO** |
| **# of patients** | N=360 | N=72 | N=143 |
| **Design** | • **ARM A**: Crenezumab sc  
• **ARM B**: Crenezumab iv  
• **ARM C**: Placebo | • **ARM A**: Crenezumab sc  
• **ARM B**: Crenezumab iv  
• **ARM C**: Placebo | • **Part 1**: Open-label  
• Multiple dosing  
• **Part 2**: Randomized  
• **ARM A**: Lampalizumab injection  
• **ARM B**: Sham injection |
| **Primary endpoint** | • Change in cognition (ADAS-cog) and Clinical Dementia Rating, Sum of Boxes (CDR-SOB) score from baseline to week 73 | • Change in brain amyloid load from baseline to week 69 | • Part 1: Safety  
• Part 2: Growth rate of GA lesions at month 18 |
| **Status** | • FPI Q2 2011  
• Enrolment completed Q3 2012 | • FPI Q3 2011  
• Enrolment completed Q3 2012 | • Part 1 FPI Q4 2012  
• Part 2 FPI Q2 2011  
• Enrolment completed Q4 2011 |
| **Collaborator** | AC Immune | | |
## Metabolism and infectious diseases development programmes

<table>
<thead>
<tr>
<th>Molecule</th>
<th>Anti-PCSK9 (RG7652)</th>
<th>NME targeting CMV (RG7667)</th>
<th>NME (RG7745)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient population</strong></td>
<td>Metabolic diseases</td>
<td>Infectious diseases</td>
<td>Prevention of cytomegalovirus disease in kidney transplant recipients</td>
</tr>
<tr>
<td><strong>Phase/study</strong></td>
<td>Phase II EQUATOR</td>
<td>Phase I</td>
<td>Phase II</td>
</tr>
<tr>
<td><strong># of patients</strong></td>
<td>N=224</td>
<td>N=181</td>
<td>N=110</td>
</tr>
</tbody>
</table>
| **Design** | SC dosing every 4 weeks  
• Experimental: five different doses of RG7652  
• Placebo |  
• ARM A: RG7667  
• ARM B: Placebo |  
• ARM A: RG7667  
• ARM B: Placebo |  
• Single ascending dose of RG7745  
• Placebo |
| **Primary endpoint** | Absolute change from baseline in LDL-c concentration | Safety, PK | Safety, clinical activity | Safety, PK |
| **Status** | Expect Phase I data presentation in 2013  
Phase II data readout in 2013  
Program will not be moved forward solely by Roche | FPI Q1 2012  
Recruitment completed Q3 2012 | FPI Q4 2012 | FSI Q2 2013 |

FSI=First Subject In
Roche Group development pipeline

Marketed products development programmes

Roche Pharma global development programmes

Roche Pharma research and early development

Genentech research and early development

Roche Group HY 2013 results

Diagnostics

Foreign exchange rate information
Geographical sales split by divisions and Group*

<table>
<thead>
<tr>
<th>CHF m</th>
<th>HY 2012</th>
<th>HY 2013</th>
<th>% change CER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pharmaceuticals Division</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17,409</td>
<td>18,162</td>
<td>+6</td>
<td></td>
</tr>
<tr>
<td>United States</td>
<td>6,815</td>
<td>7,553</td>
<td>+10</td>
</tr>
<tr>
<td>Europe</td>
<td>4,514</td>
<td>4,652</td>
<td>+1</td>
</tr>
<tr>
<td>Japan</td>
<td>1,943</td>
<td>1,672</td>
<td>+2</td>
</tr>
<tr>
<td>International</td>
<td>4,137</td>
<td>4,285</td>
<td>+5</td>
</tr>
<tr>
<td><strong>Diagnostics Division</strong></td>
<td>5,014</td>
<td>5,133</td>
<td>+3</td>
</tr>
<tr>
<td>United States</td>
<td>1,145</td>
<td>1,139</td>
<td>-1</td>
</tr>
<tr>
<td>Europe</td>
<td>2,008</td>
<td>2,050</td>
<td>0</td>
</tr>
<tr>
<td>Japan</td>
<td>284</td>
<td>242</td>
<td>+1</td>
</tr>
<tr>
<td>International</td>
<td>1,577</td>
<td>1,702</td>
<td>+9</td>
</tr>
<tr>
<td><strong>Group</strong></td>
<td>22,423</td>
<td>23,295</td>
<td>+5</td>
</tr>
<tr>
<td>United States</td>
<td>7,960</td>
<td>8,692</td>
<td>+8</td>
</tr>
<tr>
<td>Europe</td>
<td>6,522</td>
<td>6,702</td>
<td>+1</td>
</tr>
<tr>
<td>Japan</td>
<td>2,227</td>
<td>1,914</td>
<td>+2</td>
</tr>
<tr>
<td>International</td>
<td>5,714</td>
<td>5,987</td>
<td>+6</td>
</tr>
</tbody>
</table>

* Geographical sales split shown here does not represent operational organization; CER=Constant Exchange Rates
# Pharma Division sales HY 2013 (vs. 2012)

## Top 20 products

<table>
<thead>
<tr>
<th>Product</th>
<th>Global CHF m</th>
<th>CHF m % CER</th>
<th>US CHF m</th>
<th>CHF m % CER</th>
<th>Europe CHF m</th>
<th>CHF m % CER</th>
<th>Japan CHF m</th>
<th>CHF m % CER</th>
<th>International CHF m</th>
<th>CHF m % CER</th>
</tr>
</thead>
<tbody>
<tr>
<td>MabThera/Rituxan</td>
<td>3,401</td>
<td>3</td>
<td>1,657</td>
<td>6</td>
<td>959</td>
<td>2</td>
<td>118</td>
<td>3</td>
<td>667</td>
<td>-3</td>
</tr>
<tr>
<td>Avastin</td>
<td>3,093</td>
<td>12</td>
<td>1,290</td>
<td>3</td>
<td>947</td>
<td>16</td>
<td>342</td>
<td>18</td>
<td>514</td>
<td>28</td>
</tr>
<tr>
<td>Herceptin</td>
<td>3,082</td>
<td>5</td>
<td>896</td>
<td>9</td>
<td>1,110</td>
<td>0</td>
<td>141</td>
<td>6</td>
<td>935</td>
<td>8</td>
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CER=Constant Exchange Rates

* over +500%
### Pharma Division sales HY 2013 (vs. 2012)

#### Recently launched products

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CER=Constant Exchange Rates  * over +500%
## Pharma Division CER sales growth in %

### Global top 20 products

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</table>
| Valcyte/Cymeve
| 10    | 9     | 9     | 8     | 8     |
| Pulmozyme       | 8     | 11    | 4     | 9     | 7     |
| NeoRec./Epogin  | -28   | -20   | -25   | -22   | -20   |
| Mircera         | 25    | -12   | 2     | 12    | 35    |
| Zelboraf        | -     | 498   | 271   | 154   | 46    |
| Madopar         | 11    | 2     | 5     | 9     | -4    |
| Nutropin        | -12   | -10   | -5    | -6    | -8    |
| Rocephin        | 0     | -8    | -5    | -6    | 19    |

1 Q2-Q4/12 vs. Q2-Q4/11, Q1-Q2/13 vs. Q1-Q2/12  
CER=Constant Exchange Rates
### Pharma Division CER sales growth¹ in %

#### Top 20 products by region

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¹ Q3 2012 - Q4 2012 vs. 2011, Q1 2013 – Q2 2013 vs. 2012     CER=Constant Exchange Rates      * over +500%
## CER sales growth (%)

### Quarterly development

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CER=Constant Exchange Rates
HY 2013: Oncology franchise

Oncology sales +8%¹

US
- Sales growth driven by Rituxan, Perjeta and Herceptin

Europe
- Major drivers Avastin and Zelboraf

International
- Strong growth for Avastin and Herceptin

Japan
- Growth driven largely by Avastin

¹ CER=Constant Exchange Rates; Oncology sales CHF 11.2 bn
HY 2013 sales of CHF 3.401 bn

- US/Europe: Growth driven primarily by population growth and increased patient share in FL 1L maintenance

- Developing market growth due largely to increased share and duration of treatment in DLBCL

1 CER=Constant Exchange Rates
Avastin

Global sales

Regional sales

CER growth

HY 2013 sales of CHF 3.093 bn

- Europe: strong growth driven by further uptake in ovarian and colorectal cancer (Treatment through multiple lines)
- US: significant increase in mCRC use associated with TML awareness
- Japan: steady growth in NSCLC

1 CER=Constant Exchange Rates
**Herceptin**

**Global sales**  
- HY ’09  
- HY ’10  
- HY ’11  
- HY ’12  
- HY ’13

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**Regional sales**

- **Europe**: 0%
- **US**: +9%
- **Japan**: +6%
- **International**: +8%

**CER growth**

- CER=Constant Exchange Rates

**HY 2013 sales of CHF 3.082 bn**

- Growth driven by International region and US
- Emerging markets: driven by access in public markets in key countries, patient access program in China and longer duration of use in early breast cancer

---

1 CER=Constant Exchange Rates
HY 2013 sales of CHF 0.771 bn

- US: supply of IV 5FU normalised. Brand approaching end of lifecycle
- Sales growth in the International region driven by China and Latin America

1 CER=Constant Exchange Rates
HY 2013 sales of CHF 0.691 bn

- US: driven by increased EGFR testing rates, 1L treatment rates for Mut+ve patients and increase in 1L maintenance use for squamous patients
- EU: Pricing pressure and competitive challenges
- Japan: sales growth driven by uptake in 2L NSCLC

1 CER=Constant Exchange Rates
HY 2013 IAT sales: CHF 1.611 bn
- Strong growth of Actemra and MabThera/Rituxan, CellCept stabilising

**Actemra/RoActemra**
Sales: CHF 496 m (+33%)
- Growth driven by monotherapy use; US biggest growth contributor

**CellCept**
Sales: CHF 465 m (+3%)
- Patent expiry key EU countries end 2010

---

1 CER=Constant Exchange Rates
Tamiflu quarterly sales 2009 - 2013
Retail and Governments/Corporations

CHF m

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Roche
Roche Group development pipeline

Marketed products development programmes

Roche Pharma global development programmes

Roche Pharma research and early development

Genentech research and early development

Roche Group HY 2013 results

Diagnostics

Foreign exchange rate information
## HY 2013: Diagnostics Division CER growth
### By Region and Business Area (vs. 2012)

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<th>Global</th>
<th>North America</th>
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CER = Constant Exchange Rates

¹ Europe, Middle East and Africa
## Diagnostics Division quarterly sales and CER growth

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<td>Diagnostics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tissue</td>
<td>147</td>
<td>18</td>
<td>158</td>
<td>16</td>
<td>153</td>
<td>10</td>
</tr>
<tr>
<td>Diagnostics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dia Division</td>
<td>2,403</td>
<td>4</td>
<td>2,611</td>
<td>6</td>
<td>2,482</td>
<td>1</td>
</tr>
</tbody>
</table>

1 versus same period of prior year  
CER = Constant Exchange Rates
HY 2013: Diagnostics Division sales
Growth driven by Professional Diagnostics

CHF 5,133 m

- Professional Diagnostics: 55%
- Molecular Diagnostics: 16%
- Tissue Diagnostics: 6%
- Diabetes Care: 23%

CER sales growth

- Diagnostics Division: 3%
- Diabetes Care: -5%
- Professional Diagnostics: 6%
- Molecular Diagnostics: 1%
- Tissue Diagnostics: 6%
Professional Diagnostics
Continued strong growth

2013 vs. 2012 CER growth
+6%

CER=Constant Exchange Rates
Diabetes Care

Continued challenging market environment

![Bar chart showing CHF bn for Blood Glucose Monitoring and Insulin Delivery for HY '11, HY '12, and HY '13 with CER growth of -5% for each year.]

CER=Constant Exchange Rates
Molecular Diagnostics
Back to growth in Q2 2013

2013 vs. 2012
CER growth

CHF bn

Virology
qPCR & NAP Systems
Blood Screening
HPV & Microbiology
Other

CER=Constant Exchange Rates
Tissue Diagnostics
Strong growth in EMEA\(^1\) and emerging markets

\[\text{CER} = \text{Constant Exchange Rates}\]

\(^1\) Europe, Middle East and Africa

\[\text{CHF bn} \]

2013 vs. 2012 CER growth

+6%

<table>
<thead>
<tr>
<th>Year</th>
<th>Advanced Staining</th>
<th>Primary Staining</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>HY '11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HY '12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HY '13</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[\text{HY '11}, \text{HY '12}, \text{HY '13}\]
## 2013: Key planned product launches
### Professional Diagnostics

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>cobas 8100 pre-analytical series</td>
<td>High throughput total lab automation system designed for up to 1100 samples per hour and connectivity to SWA, Coagulation, Hematology and Urinalysis</td>
<td>EU</td>
</tr>
<tr>
<td>Elecsys Calcitonin immunoassay</td>
<td>Aids in the diagnosis and monitoring of medullary thyroid cancer</td>
<td>EU ✓</td>
</tr>
<tr>
<td>Elecsys proGRP immunoassay</td>
<td>Aids in the diagnosis of small cell lung cancer</td>
<td>EU ✓</td>
</tr>
<tr>
<td>Elecsys Cyclosporin &amp; Tacrolimus immunoassays</td>
<td>Monitoring of immunosuppressive drug therapy in transplant patients</td>
<td>EU ✓</td>
</tr>
</tbody>
</table>

Planned launches may be delayed or not occur as a result of adverse regulatory decisions or other factors
### 2013: Key planned product launches

**Diabetes Care**

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accu-Chek Active LCM</td>
<td>Next-generation blood glucose monitoring system maltose independent strips</td>
<td>EU</td>
</tr>
<tr>
<td>Accu-Chek Insight</td>
<td>Next generation insulin delivery system combining an insulin pump and a blood glucose meter that functions as a pump remote control</td>
<td>EU</td>
</tr>
</tbody>
</table>

Planned launches may be delayed or not occur as a result of adverse regulatory decisions or other factors.
## 2013: Key planned product launches
### Molecular Diagnostics

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>cobas EGFR test</td>
<td>Companion diagnostic to Tyrosine Kinase Inhibitors / Tarceva for the detection of EGFR mutation in non-small cell lung cancer</td>
<td>US</td>
</tr>
<tr>
<td>MPX 2.0</td>
<td>Next generation multiplex test for blood screening for HIV, HCV and HBV</td>
<td>US</td>
</tr>
<tr>
<td>CAP/CTM HCV 2.0</td>
<td>Next generation HCV viral load test</td>
<td>US</td>
</tr>
<tr>
<td>Seq Cap EZ*</td>
<td>Reagent sets for targeted next generation sequencing</td>
<td>WW</td>
</tr>
<tr>
<td>GS FLX long amplicons*</td>
<td>Software for long-read targeted sequencing for DNA variant detection</td>
<td>WW</td>
</tr>
</tbody>
</table>

---

* From Sequencing Solutions Unit

Planned launches may be delayed or not occur as a result of adverse regulatory decisions or other factors.
## 2013: Key planned product launches

### Tissue Diagnostics

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>ER test</td>
<td>Estrogen receptor antibody (IHC) assay to support the diagnosis of breast cancer</td>
<td>US</td>
</tr>
<tr>
<td>CINtec PLUS Cytology</td>
<td>Immunocytochemistry assay used to screen women for cervical pre-cancer</td>
<td>EU</td>
</tr>
</tbody>
</table>

Planned launches may be delayed or not occur as a result of adverse regulatory decisions or other factors.
Roche Group development pipeline

Marketed products development programmes

Roche Pharma global development programmes

Roche Pharma research and early development

Genentech research and early development

Roche Group HY 2013 results

Diagnostics

Foreign exchange rate information
CHF / USD

Monthly averages

Year-To-Date averages

+1%
CHF / EUR

January

January 166

1.19

1.21

1.23

1.25

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

monthly avg 2013

avg HY 2013

+2%

avg HY 2012

monthly avg 2012

avg full year 2012
## Average exchange rates

<table>
<thead>
<tr>
<th>Currency</th>
<th>HY 13</th>
<th>HY 12</th>
<th>HY 13 vs. HY 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>USD</td>
<td>0.94</td>
<td>0.93</td>
<td></td>
</tr>
<tr>
<td>EUR</td>
<td>1.23</td>
<td>1.20</td>
<td></td>
</tr>
<tr>
<td>JPY</td>
<td>0.98</td>
<td>1.17</td>
<td></td>
</tr>
</tbody>
</table>

The chart shows the percentage change from HY 13 to HY 12 for each currency.
Exchange rate impact on sales growth

In H1 negative impact from JPY partially offset by positive impact from USD and EUR

Development of average exchange rates versus prior year period

<table>
<thead>
<tr>
<th>Currency Pair</th>
<th>CHF / EUR</th>
<th>CHF / USD</th>
<th>CHF / JPY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1 HY YTD 9 FY</td>
<td>+1.6 %</td>
<td>+0.9 %</td>
<td>-13.3 %</td>
</tr>
<tr>
<td>CER</td>
<td>+2.0 %</td>
<td>+0.8 %</td>
<td>-15.8 %</td>
</tr>
</tbody>
</table>

Difference in CHF / CER growth

| CHF / CER growth | -0.8 % p | -1.1 % p |

Sales growth 2013 vs. 2012

- CER growth
- CHF growth

Q1

- 5.9%
- 5.1%

HY

- 5.0%
- 3.9%

YTD 9

FY

CER = Constant Exchange Rates
Exchange rate impact on sales growth
In H1 negative impact from JPY partially offset by positive impact from USD and EUR

Development of average exchange rates versus prior year period

<table>
<thead>
<tr>
<th>Currency Pair</th>
<th>2013 Growth</th>
<th>2012 Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHF / EUR</td>
<td>+1.6 %</td>
<td>+2.4 %</td>
</tr>
<tr>
<td>CHF / USD</td>
<td>+0.9 %</td>
<td>+0.7 %</td>
</tr>
<tr>
<td>CHF / JPY</td>
<td>-13.3 %</td>
<td>-18.2 %</td>
</tr>
</tbody>
</table>

Difference in CHF / CER growth
-0.8 %p  -1.4 %p

CER = Constant Exchange Rates
Exchange rate impact on sales growth
Negative impact from JPY partially offset by positive impact from EUR and USD

CER sales growth
HY 2013 vs. HY 2012

CER 5.0%
JPY -1.6%
Lat-Am -0.5%
Other -0.1%
Oth Europe +0.1%
AS-Pac +0.2%
USD +0.3%
EUR +0.5%
CHF 3.9%

CHF sales growth
HY 2013 vs. HY 2012

CER=Constant Exchange Rates
**HY 2013: Operating free cash flow**

*Solid 4% growth, in spite of Montoro payments received in HY 2012*
Doing now what patients need next