Disclaimer

This presentation contains forward-looking statements that can be identified by terminology such as "potential," "expected," "will," "planned," or similar terms, or by express or implied discussions regarding potential new products, potential new indications for existing products, or regarding potential future revenues from any such products; potential shareholder returns or credit ratings; or regarding any potential financial or other impact on Novartis or any of our divisions of the strategic actions announced in January 2016 to focus our divisions, integrate certain functions and leverage our scale; or regarding any potential financial or other impact on Novartis from the creation of the Pharmaceuticals business unit and Oncology business unit to form the Innovative Medicines Division; or regarding any potential financial or other impact on Novartis as a result of the creation and operation of NBS, our centralized Technical Operations organization, or GDD; or regarding the potential financial or other impact on Novartis of the transactions with GSK, Lilly or CSL; or regarding potential future sales or earnings of the Novartis Group or any of its divisions; or by discussions of strategy, plans, expectations or intentions. You should not place undue reliance on these statements. Such forward looking statements are based on the current beliefs and expectations of management regarding future events, and are subject to significant known and unknown risks and uncertainties. Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those set forth in the forward looking statements. There can be no guarantee that any new products will be approved for sale in any market, or that any new indications will be approved for any existing products in any market, or that any approvals which are obtained will be obtained at any particular time, or that any such products will achieve any particular revenue levels. Neither can there be any guarantee that Novartis will be able to realize any of the potential strategic benefits, synergies or opportunities as a result of the creation of the Pharmaceuticals business unit and Oncology business unit to form the Innovative Medicines Division, the strategic actions announced in January 2016, the creation and operation of NBS, our centralized Technical Operations organization, or GDD, or the transactions with GSK, Lilly and CSL. Nor can there be any guarantee that Novartis or any of the businesses involved in the transactions will achieve any particular financial results in the future. Neither can there be any guarantee that shareholders will achieve any particular level of shareholder returns. Nor can there be any guarantee that the Group, or any of its divisions, will be commercially successful in the future, or achieve any particular credit rating. In particular, management’s expectations could be affected by, among other things: unexpected regulatory actions or delays or government regulation generally; the potential that the strategic benefits, synergies or opportunities expected from the creation of the Pharmaceuticals business unit and Oncology business unit to form the Innovative Medicines Division, the strategic actions announced in January 2016, the creation and operation of NBS, our centralized Technical Operations organization, and GDD, or the transactions with GSK, Lilly and CSL may not be realized or may take longer to realize than expected; the inherent uncertainties involved in predicting shareholder returns or credit ratings; the uncertainties inherent in research and development, including unexpected clinical trial results and additional analysis of existing clinical data; our ability to obtain or maintain proprietary intellectual property protection, including the ultimate extent of the impact on Novartis of the loss of patent protection and exclusivity on key products which commenced in prior years and continues this year; unexpected safety, quality or manufacturing issues; global trends toward health care cost containment, including ongoing pricing pressures, in particular from increased public on pharmaceutical pricing; uncertainties regarding actual or potential legal proceedings, including, among others, actual or potential product liability litigation, litigation and investigations regarding sales and marketing practices, intellectual property disputes, and government investigations generally; general economic and industry conditions, including uncertainties regarding the effects of the persistently weak economic and financial environment in many countries; uncertainties regarding future global exchange rates, including the increased increases in value of the US dollar, our reporting currency, against a number of currencies; and other risks and factors referred to in Novartis AG’s current Form 20-F on file with the US Securities and Exchange Commission. Novartis is providing the information in this presentation as of this date and does not undertake any obligation to update any forward-looking statements as a result of new information, future events or otherwise.
## Agenda

<table>
<thead>
<tr>
<th></th>
<th>Group review</th>
<th>Joseph Jimenez, Chief Executive Officer</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Financial review</td>
<td>Harry Kirsch, Chief Financial Officer</td>
</tr>
<tr>
<td>3</td>
<td>Development</td>
<td>Vas Narasimhan, Global Head Drug Development &amp; CMO</td>
</tr>
<tr>
<td>4</td>
<td>Closing</td>
<td>Joseph Jimenez, Chief Executive Officer</td>
</tr>
<tr>
<td>5</td>
<td>Q&amp;A session</td>
<td>Executive team</td>
</tr>
</tbody>
</table>
Growth Products offsetting Glivec® LoE¹; several positive readouts for potential blockbusters

Net sales -1% (cc vs. PY)²
Glivec® LoE offset by Growth Products

Core operating income -3% (cc vs. PY)
Reflecting Glivec® LoE and growth investments

Strong innovation
• LEE011 positive Phase III data and FDA Breakthrough Therapy Designation
• BAF312 positive Phase III data in SPMS³
• Erelzi® FDA approval⁴

¹. Growth Products defined on slide 52. LoE: Loss of exclusivity for Glivec® US (US brand name Gleevec®). ². All growth shown vs. prior year (PY) in constant currencies (cc). All numbers refer to continuing operations and do not include divested businesses. An explanation of continuing operations can be found on page 38 of the Condensed Financial Report. ³. SPMS: Secondary progressive multiple sclerosis ⁴. Etanercept-szzs
Our priorities for 2016

1. Deliver strong Financial Results
2. Strengthen Innovation
3. Improve Alcon Performance
4. Capture Cross-Divisional Synergies
5. Build a High-Performing Organization
Q3 net sales broadly in line due to strong performance of Growth Products
Cosentyx®: Strong launch continues in Q3

• USD 301 million sales in Q3
• **Strength of efficacy:** superiority vs. Stelara® at 52 weeks in psoriasis
• **Sustained efficacy:** 4-year data in psoriasis

1. Stelara® is a registered trademark of Johnson & Johnson  
2. Blauvelt et al JAAD (2016)  
Cosentyx®: Continued gains in AS and PsA

US: Share of weekly AS and PsA NBRx¹

US: 27% share of NBRx across AS and PsA

1. NBRx from Rheumatology specialty and allocated for PsA and AS indications only based on anonymized patient data. Simponi®, Cimzia®, Remicade® not shown (jointly accounting for 7-10% share over the period shown)

Source: IMS weekly NBRx from week ending January 8 to September 30, 2016 (first issuance of 30 September data). All trademarks are the property of their respective owners
Entresto®: QoL data and investment continues

- **USD 53 million** sales in Q3
- **New data analysis** underlines QoL benefits
  - **Investment:**
    - **US field force:** additional sales reps in field and expanding
    - **Access:** now approved in 64 countries, launched in 30
    - **Medical:** expansion of medical education support

1. Lewis EF et al. J Card Fail (2016): A post hoc data analysis from the PARADIGM-HF trial showed lower declines in HRQoL (measured by KCCQ) as compared to enalapril for patients following a heart failure hospitalization
2. Seven additional approvals compared to Q2 and launched with reimbursement in Spain as of October 2016
Entresto®: Continued increase in TRx volume

1. IMS data week ending September 30, 2016 (first issuance of 30 September data); linear trend lines derived over week 1-30, i.e. week ending July 10, 2015 – January 29, 2016 (increase of 81 TRx / week) and week 31-60, week ending February 5, 2016 - August 26, 2016 (increase of 164 TRx / week)

- US adoption accelerating
- Higher volume per capita in most European markets
- On track for ~USD 0.2bn full year

US weekly NBRx and TRx¹ (#)

1 2 3 4 5

1,647

7,865

0 2'000 4'000 6'000 8'000

1 11 21 31 41 51 61

Weeks post launch

NBRx

TRx

1. IMS data week ending September 30, 2016 (first issuance of 30 September data); linear trend lines derived over week 1-30, i.e. week ending July 10, 2015 – January 29, 2016 (increase of 81 TRx / week) and week 31-60, week ending February 5, 2016 - August 26, 2016 (increase of 164 TRx / week)
Biopharmaceuticals¹: On track for USD 1bn sales

- On track for USD 1bn sales in 2016, approx. 50% in US
- Zarxio® US exceeded USD 100mn since launch
- Glatopa® approx. 40% market share²

¹ Biopharmaceuticals include biosimilars, biopharmaceutical contract manufacturing and Glatopa® ² Share of 20mg glatiramer acetate market, based on volume and including customers not reported by IMS

Source: Sandoz, IMS NPA
### Innovation strong in Q3

<table>
<thead>
<tr>
<th>✓</th>
<th><strong>LEE011</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Positive Ph III data &amp; FDA BTD:</strong></td>
<td><strong>BAF312</strong></td>
</tr>
<tr>
<td>Extended PFS(^1) in HR+/HER2-advanced breast cancer</td>
<td><strong>Positive Ph III:</strong> Reduction of disability progression in SPMS(^2)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>✓</th>
<th><strong>AMG 334(^3)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Positive Ph III &amp; Ph II:</strong> In episodic and chronic migraine</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>✓</th>
<th><strong>Erelzi(^4)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FDA approved:</strong> first biosimilar of Enbrel(^5)</td>
<td></td>
</tr>
</tbody>
</table>

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1. PFS: Progression Free Survival  
2. SPMS: Secondary progressive multiple sclerosis  
3. In collaboration with Amgen; Novartis has AMG 334 rights outside of US, Canada and Japan  
4. Etanercept-szzs
On track for CTL019 filing in pediatric ALL

- Pediatric ALL filing expected in early 2017
- DLBCL filing expected in H2 2017
- Cell & Gene Therapy unit integrated into broader Novartis organization
Alcon: Signs of progress in contact lenses

Global Sales Growth Contact Lenses
% vs. PY

- Contact lenses returning to growth over last two quarters
- 1-2 ppt\(^1\) share increase in European markets\(^2\) with DTC\(^3\) investments
- Growth expected to continue in Q4, despite competitive pressure

1. ppt: percentage point  
2. Includes Italy, Nordics, Spain  
3. DTC: direct-to-consumer advertising
Alcon: Accelerating innovation to help Surgical turnaround, but will take longer

- **CyPass® Micro-Stent launching**
- **NGENUITY® 3D Visualization system launching**
- **UltraSert™, PanOptix® IOLs Contributing to EU sales**
We are advancing our productivity agenda

Novartis Business Services cost under management stable vs. PY while improving quality

- Selective offshoring to Global Service Centers continues
- Standardization of infrastructure services at manufacturing sites
- IT supplier consolidation driving efficiencies
Integrating manufacturing and drug development across divisions: Seeing early benefits

• **Manufacturing**: Integration around technology platforms

• **Drug development**: Integration of global functions

1. Improved transparency
2. Better resource allocation
3. More collaboration
Agenda

1. Group review  
   Joseph Jimenez, Chief Executive Officer

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   Vas Narasimhan, Global Head Drug Development & CMO

4. Closing  
   Joseph Jimenez, Chief Executive Officer

5. Q&A session  
   Executive team
Summary of Q3 2016 financial results

Continuing operations\(^1\)
USD mn

<table>
<thead>
<tr>
<th></th>
<th>Q3 2016</th>
<th>Change vs. PY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>% USD</td>
</tr>
<tr>
<td>Net Sales</td>
<td>12 126</td>
<td>-1</td>
</tr>
<tr>
<td>Core Operating Income</td>
<td>3 381</td>
<td>-3</td>
</tr>
<tr>
<td>Operating Income</td>
<td>2 269</td>
<td>+2</td>
</tr>
<tr>
<td>Net Income</td>
<td>1 945</td>
<td>+7</td>
</tr>
<tr>
<td>Core EPS (USD)</td>
<td>1.23</td>
<td>-3</td>
</tr>
<tr>
<td>EPS (USD)</td>
<td>0.81</td>
<td>+8</td>
</tr>
<tr>
<td>Free Cash Flow</td>
<td>2 591</td>
<td>-7</td>
</tr>
</tbody>
</table>

1. An explanation of continuing operations can be found on page 38 of the Condensed Interim Financial Report
Sales volume growth more than offset by generics and price impact

Continuing operations Q3 2016
Growth vs. PY in %

<table>
<thead>
<tr>
<th></th>
<th>Net sales</th>
<th>Core operating income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume before Gx</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>Price¹</td>
<td>-2</td>
<td>-7</td>
</tr>
<tr>
<td>Generics impact</td>
<td>-4</td>
<td>-11</td>
</tr>
<tr>
<td>CC growth</td>
<td>-1</td>
<td>-3</td>
</tr>
<tr>
<td>Currency</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>USD growth</td>
<td>-1</td>
<td>-3</td>
</tr>
</tbody>
</table>

1. Includes price impact of generics
## Innovative Medicines Division

### Key growth drivers

<table>
<thead>
<tr>
<th>Indication</th>
<th>Q3 2016 Net sales (USD mn)</th>
<th>Q3 2016 Growth vs. PY (% cc)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GILENYA</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MS</td>
<td>790</td>
<td>15%</td>
</tr>
<tr>
<td><strong>Tasigna</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CML</td>
<td>441</td>
<td>8%</td>
</tr>
<tr>
<td><strong>Galvus</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type 2 diabetes mellitus</td>
<td>306</td>
<td>6%</td>
</tr>
<tr>
<td><strong>Cosentyx</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PsO, PsA, AS</td>
<td>301</td>
<td>nm²</td>
</tr>
<tr>
<td><strong>Xolair</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Severe allergic asthma, CSU/CIU</td>
<td>215</td>
<td>19%</td>
</tr>
<tr>
<td><strong>Votrient</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>aRCC</td>
<td>183</td>
<td>9%</td>
</tr>
<tr>
<td><strong>Onbrez</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COPD</td>
<td>169</td>
<td>18%</td>
</tr>
<tr>
<td><strong>Tafinlar</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BRAF V600+ metastatic melanoma</td>
<td>172</td>
<td>29%</td>
</tr>
<tr>
<td><strong>REVLADE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thrombocytopenia⁷, SAA</td>
<td>168</td>
<td>44%</td>
</tr>
<tr>
<td><strong>JAKAVI</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MF, PV</td>
<td>149</td>
<td>47%</td>
</tr>
<tr>
<td><strong>Entresto</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HFrEF</td>
<td>53</td>
<td>nm²</td>
</tr>
</tbody>
</table>

1. Selected key products for growth of Innovative Medicines Division  
2. nm: not meaningful, as growth rate is greater than 200% (cc)  
3. Onbrez® Breezhaler® approved as Arcepta® Neohaler® in the US; Ultibro® Breezhaler® approved as Ultibron® Neohaler®  
4. Net sales and growth of Onbrez®, Seebri® and Ultibro®  
5. Net sales and growth of Tafinlar® Mekinist®  
6. Approved as Promacta® in the US  
7. cITP and thrombocytopenia associated with hepatitis C
Q3 core margin declined mainly due to Alcon growth investments

<table>
<thead>
<tr>
<th></th>
<th>Net sales change vs. PY (in % cc)</th>
<th>Core operating income change vs. PY (in % cc)</th>
<th>Core ROS (%)</th>
<th>Core margin change vs. PY (% pts cc)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovative Medicines</td>
<td>-1</td>
<td>-1</td>
<td>32.7</td>
<td>0.0</td>
</tr>
<tr>
<td>Sandoz</td>
<td>-1</td>
<td>1</td>
<td>21.1</td>
<td>0.2</td>
</tr>
<tr>
<td>Alcon</td>
<td>-3</td>
<td>-35</td>
<td>14.3</td>
<td>-6.8</td>
</tr>
<tr>
<td><strong>Q3 continuing operations</strong></td>
<td><strong>-1</strong></td>
<td><strong>-3</strong></td>
<td><strong>27.9</strong></td>
<td><strong>-0.6</strong></td>
</tr>
</tbody>
</table>
9M free cash flow was USD 6.5bn

Continuing operations free cash flow
USD bn

<table>
<thead>
<tr>
<th></th>
<th>9M 2015</th>
<th>9M 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>USD bn</td>
<td>6.3</td>
<td>6.5</td>
</tr>
<tr>
<td>Change</td>
<td></td>
<td>+0.2</td>
</tr>
</tbody>
</table>

Key drivers vs. PY

- Favorable working capital\(^1\)
- Lower Capex
- OTC JV dividend
- Lower operating income

1. Free cash flow from working capital consists of changes in inventory, trade receivables, trade payables and net current assets and other operating cash flow items.
Net debt increased by USD 2.3bn to USD 18.8bn in 2016 year to date

USD bn

Dec 31, 2015 Free cash flow Dividends M&A related payments Portfolio transformation transactions costs\(^1\) Treasury share transactions, net\(^2\) Others Sep 30, 2016
-16.5 6.5 -6.5 -0.5 -0.5 -0.7 -0.6 -18.8

1. Includes capital gains tax payments 2. Includes proceeds from options exercised

+1.8bn vs. June 30, 2016
Expected currency impact for FY 2016 and 2017, assuming mid-October exchange rates prevail

Currency impact vs. PY¹ (in % pts)

<table>
<thead>
<tr>
<th>Year</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
<th>FY</th>
<th>FY</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>-10</td>
<td>-4</td>
<td>-2</td>
<td>-1</td>
<td>-1</td>
<td>-1</td>
</tr>
<tr>
<td>2016</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2017</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

¹. Q4 and FY 2016 guidance assuming mid-October exchange rates prevail for the remainder of the year; 2017 guidance based on same assumption
2016 full year outlook

Barring unforeseen events

• Group net sales are expected to be broadly in line with the prior year (cc)

• Group core operating income is expected to be broadly in line or decline low single digit (cc)
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   Executive team
Novartis Global Drug Development

- Immunology
- Dermatology
- Cardio-Metabolic
- Respiratory
- Ophthalmology
- Neuroscience
- Oncology
- Biosimilars

Global Operations (Trial, Technical Development, Regulatory, Safety)
**LEE011 + letrozole reduced risk of progression or death by 44% over letrozole alone**

Progression Free Survival (MONALEESA-2¹)

- Only CDK4/6 inhibitor to meet primary endpoint in 1st line setting at pre-planned interim analysis
  - Significantly extended PFS across all subgroups
- Objective tumor response observed in >50% of women with measurable disease
- Breakthrough Therapy Designation granted by FDA, worldwide submissions in preparation

1. Phase III trial in 1st line HR+/HER2- advanced breast cancer

Source: Hortobagyi et al., European Society for Medical Oncology (ESMO) Congress, October 2016 (abstract # LBA1_PR); Novartis data on file

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**Progression Free Survival (MONALEESA-2¹)**

- **LEE011 + letrozole**
- **Placebo + letrozole**

**Median PFS (months)**
- Ribociclib + letrozole: NR (19.3–NR)
- Placebo + letrozole: 14.7 (13.0–16.5)
- Hazard Ratio: 0.556 (0.429–0.720)
- p<0.0001
LEE011 with positive benefit/risk profile and manageable adverse events

### Adverse events

<table>
<thead>
<tr>
<th>Adverse event</th>
<th>Ribociclib (N=334)</th>
<th>Placebo (N=330)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Grade 3 (%)</td>
<td>Grade 4 (%)</td>
</tr>
<tr>
<td>Neutropenia</td>
<td>132 (39.5)</td>
<td>29 (8.7)</td>
</tr>
<tr>
<td>Nausea</td>
<td>8 (2.4)</td>
<td>0</td>
</tr>
<tr>
<td>Fatigue</td>
<td>7 (2.1)</td>
<td>1 (0.3)</td>
</tr>
<tr>
<td>Diarrhea</td>
<td>4 (1.2)</td>
<td>0</td>
</tr>
<tr>
<td>Alopecia</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Vomiting</td>
<td>12 (3.6)</td>
<td>0</td>
</tr>
<tr>
<td>Arthralgia</td>
<td>2 (0.6)</td>
<td>1 (0.3)</td>
</tr>
</tbody>
</table>

- 25 patients (7.5%) discontinued trial participation due to adverse events
  - Adverse events manageable with dose reductions and interruptions
- 4 (1.2%) cases of Hy’s Law on LEE011 vs. 1 (0.3%) on placebo
  - No fatal outcomes; all cases recovered to normal liver function after therapy discontinuation
- 11 (3.3%) cases with QTcF >480ms after baseline, incl. 6 patients with >60ms increase from baseline

Source: Hortobagyi et al., European Society for Medical Oncology (ESMO) Congress, October 2016 (abstract # LBA1_PR); NEJM, October 8, 2016 DOI: 10.1056/NEJMoa1609709 (online first)
LEE011: progressing key additional Phase III breast cancer trials

**MONALEESA-3** (post-menopausal)
- 1st line & 2nd line post AI in combination with fulvestrant
- Fully enrolled; final data expected H2 2017; filing early 2018 if supported by data

**MONALEESA-7** (pre-menopausal)
- 1st line in combination with tamoxifen/NSAI & goserelin
- Fully enrolled; final data expected H1 2018 and potential filing H2 2018

**Additional programs under assessment**
- LEE011 in adjuvant setting
- Solid tumor indications
**CTL019 is on track for US submission in Q1 2017**

<table>
<thead>
<tr>
<th><strong>ELIANA: Phase II trial in relapsed / refractory B-cell pediatric ALL</strong></th>
<th><strong>JULIET: Phase II trial in 3rd line relapsed / refractory DLBCL</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• On track for US BLA in Q1 2017</td>
<td>• Screening completed for main study cohort</td>
</tr>
<tr>
<td>• FDA Breakthrough Therapy designation and EMA PRIME designation granted</td>
<td>• Orphan designation received (US, EU)</td>
</tr>
<tr>
<td>• Orphan designation received (US, EU)</td>
<td>• Discussions with FDA and EMA ongoing</td>
</tr>
<tr>
<td>• Positive benefit-risk demonstrated in Univ. Pennsylvania/CHOP clinical studies</td>
<td>• Positive benefit-risk demonstrated in Univ. Pennsylvania clinical study</td>
</tr>
</tbody>
</table>
BAF312 reduced the risk of disability progression in patients with SPMS in the EXPAND trial\(^1\)

3-Month Confirmed Disability Progression (CDP)\(^1\)

- 21% risk reduction on 3-month CDP vs. placebo (primary endpoint)
- Consistent positive effect observed on 6-month CDP (26% risk reduction) and important secondary endpoints\(^2\)
- Patients were representative of SPMS with 64% non-relapsing at baseline
- Safety profile of BAF312 was comparable to other drugs in the same class

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1. Kappos et al. ECTRIMS 2016 (oral presentation); SPMS=Secondary Progressive Multiple Sclerosis
2. Change from baseline in T2 lesion volume (key secondary), annualized relapse rate, percent change from baseline in brain volume, non-significant trend for T25FW (Timed 25 Foot Walk Test, key secondary endpoint)
BAF312 demonstrated consistent effect across all predefined subgroups for 3-month CDP

- All predefined subgroups demonstrated positive effect vs. placebo
- Treatment effect in subgroups with less inflammatory activity
- Health authorities consultations planned to agree on path forward

1. CDP: Confirmed Disability Progression
   Source: Kappos et al. ECTRIMS 2016 (oral presentation); SPMS (+)/(-): with or without superimposed relapses in the 2 years prior to study start; *Model estimate
Migraine prophylaxis remains an area of high unmet medical need

Number of migraine patients

- Migraine is sixth highest cause worldwide of years lost due to disability
- Major prophylactic anti-migraine drugs are repurposed from other primary indications
- Medications used in prophylactic migraine treatment have incomplete efficacy
  - Most produce adverse effects resulting in limited adherence

1. Source Decision Resources in G7 countries = US, DE, FR, SP, IT, UK, JP
2. Chronic Migraine: 15+ migraine headache days per month
3. Episodic Migraine: 4-14 migraine headache days per month
4. Global Burden of Disease Study 2013
5. Major prophylactic anti-migraine drugs include beta-blockers, tricyclic anti-depressants, anti-epileptic drugs; Pringsheim T. et al. CMAJ 2010
**AMG 334\(^1\) in episodic migraine prophylaxis: Positive data from the ARISE Phase III trial**

**MMD\(^2\) reduction at week 12**
ARISE Phase III trial in Episodic Migraine

- AMG 334 (erenumab) is a potent CGRP\(^3\) receptor blocker
- Primary endpoint was met in ARISE trial
  - Significant reduction from baseline in MMD in patients treated with AMG 334 vs. placebo\(^4\)
- Safety profile of AMG 334 was similar to placebo
- STRIVE Phase III episodic migraine trial results expected in Q4 2016

<table>
<thead>
<tr>
<th>MMD reduction (days)</th>
<th>Placebo</th>
<th>AMG 334 70 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-1.8</td>
<td>-2.9*</td>
</tr>
</tbody>
</table>

* p<0.001

1. In collaboration with Amgen; Novartis has AMG 334 rights outside of US, Canada and Japan
2. Monthly Migraine Days
3. Calcitonin Gene-Related Peptide
4. At baseline, patients had 4 to 14 headache days a month
AMG 334 also showed significant efficacy in Phase II chronic migraine prophylaxis trial

Patients with ≥50% reduction from baseline in MMD (weeks 9 to 12)

- Primary endpoint met in Phase II trial
  - MMD reduced by 6.6 days from baseline across both AMG 334 doses vs. 4.2 days in patients on placebo

- Secondary endpoints also positive
  - Significantly more patients on AMG 334 had ≥50% MMD reduction from baseline compared to placebo
  - AMG 334 also significantly reduced monthly acute migraine-specific medication days vs. placebo

- Safety profile of AMG 334 was similar to placebo across both treatment arms

1. Tepper et al. EHMTIC (European Headache and Migraine Trust International Congress), September 2016; poster 057
2. Monthly Migraine Days
3. Secondary endpoint; patients had ~18 MMDs at baseline
4. p<0.001 vs. placebo arm
Cosentyx® delivered high and long-lasting improvements in skin clearance over 4 years

PASI responder rates\textsuperscript{1,2}
4-year data from SCULPTURE Phase III trial

- Cosentyx\textsuperscript{®} demonstrated sustained efficacy over 4 years in psoriasis\textsuperscript{1,2}
  - Approximately 4 in 5 patients completed 4 years of treatment
  - Almost 100% of PASI 90 & 100 response rates maintained from year 1 to year 4\textsuperscript{1,2}
  - Average PASI improvement of >90% out to year 4\textsuperscript{1,2}
  - High and sustained relief from patient burden of psoriasis\textsuperscript{1,3}

- Superiority vs. Stelara\textsuperscript{®} at 52 weeks in psoriasis\textsuperscript{4}

- Head-to-head trials vs. Humira\textsuperscript{®} in PsA and AS in preparation

\textsuperscript{1} Bissonnette R., et al. late breaking abstract at EADV, October 1, 2016
\textsuperscript{2} As observed analysis; PASI: Psoriasis Area and Severity Index score
\textsuperscript{3} As observed analysis; DLQI 0/1: Dermatology Life Quality Index score of 0 or 1
\textsuperscript{4} Blauvelt A., et al. J Am Acad Dermatol. (September 2016)  Note: All trademarks are the property of their respective owners
Entresto® FortiHFy program: Key trials on track

**PARAGON** (Entresto® for HF-pEF¹)
- Patient enrollment on track
- Planned trial completion in 2019

**PARADISE** (Entresto® for post-AMI²)
- On track for planned trial start in Q4 2016
- Planned trial completion in 2019

**TRANSITION** (Entresto® pre- vs. post-discharge initiation following ADHF³)
- Patient enrollment started
- Planned trial completion in 2018

**PIONEER** (Entresto® in-hospital initiation vs. enalapril following ADHF³)
- Patient enrollment started
- Planned trial completion in 2018

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¹ HF-pEF: heart failure with preserved ejection fraction  
² AMI: acute myocardial infarction  
³ ADHF: acute decompensated heart failure
CV outcomes trials for RLX030 and ACZ885 progressing as planned

RELAX-AHF-2 (RLX030 for acute heart failure) on track to complete in H1 2017
- RELAX-AHF trial showed 37% reduction in CV death
- Current RELAX-AHF-2 trial ongoing with ~6,600 patients (fully enrolled)
- Primary endpoints: CV death and worsening heart failure

CANTOS (ACZ885 for CV risk reduction) on track to complete in 2017
- Fully enrolled ~10,000 patients with history of MI and vascular inflammation
- Expected median treatment duration of >4 years
- Primary endpoint: composite endpoint of CV death, MI, stroke

1. CV death through Day 180 and WHF through Day 5 (follow-up)  2. hs-CRP (high-sensitivity C-reactive protein) >2mg/L
Progressing development of 12 potential blockbusters in Innovative Medicines

<table>
<thead>
<tr>
<th>Molecule</th>
<th>Indication</th>
<th>MoA</th>
<th>Expected Pivotal Trial Readout</th>
<th>Potential blockbuster</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEE011 (ribociclib)</td>
<td>HR+ HER2- advanced breast cancer</td>
<td>CDK4/6 inhibitor</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>BAF312 (siponimod)²</td>
<td>Secondary progressive multiple sclerosis</td>
<td>S1P receptor modulator</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>OAP030 (Fovista³)³</td>
<td>Neovascular AMD</td>
<td>Aptamer anti-PDGF</td>
<td>Q4 2016</td>
<td>✓</td>
</tr>
<tr>
<td>AMG 334 (erenumab)⁴</td>
<td>Prophylaxis of migraine</td>
<td>CGRP receptor antagonist</td>
<td>Q4 2016⁵</td>
<td>✓</td>
</tr>
<tr>
<td>RLX030 (serelaxin)</td>
<td>Acute heart failure</td>
<td>Relaxin receptor agonist</td>
<td>H1 2017</td>
<td>✓</td>
</tr>
<tr>
<td>RTH258 (brolucizumab)</td>
<td>Neovascular AMD</td>
<td>Anti-VEGF (scFv)</td>
<td>H1 2017</td>
<td>✓</td>
</tr>
<tr>
<td>ACZ885 (canakinumab)</td>
<td>CV risk reduction</td>
<td>Anti-IL1β</td>
<td>2017</td>
<td>✓</td>
</tr>
<tr>
<td>AIN457 (Cosentyx⁶)</td>
<td>Non-radiographic axial SpA</td>
<td>Anti-IL17A</td>
<td>2018</td>
<td>✓</td>
</tr>
<tr>
<td>QVM149 (indacaterol, glycopyrronium, mometasone)</td>
<td>Asthma</td>
<td>LABA + LAMA + ICS</td>
<td>2018</td>
<td>✓</td>
</tr>
<tr>
<td>LCZ696 (Entresto⁷)</td>
<td>Heart failure with preserved EF</td>
<td>ARNI</td>
<td>2019</td>
<td>✓</td>
</tr>
<tr>
<td>QAW039 (fevipiprant)</td>
<td>Asthma</td>
<td>CRTh2 antagonist</td>
<td>2019</td>
<td>✓</td>
</tr>
<tr>
<td>OMB157 (ofatumumab)</td>
<td>Relapsing multiple sclerosis</td>
<td>Anti-CD20</td>
<td>2019</td>
<td>✓</td>
</tr>
</tbody>
</table>

1. Blockbuster potential refers to specified indication  2. Next steps to be evaluated in consultations with health authorities  3. In collaboration with OphthoTech; Novartis has OAP030 rights outside of the US  4. In collaboration with Amgen; Novartis has AMG 334 rights outside of US, Canada and Japan  5. ARISE trial completed, STRIVE trial results expected Q4 2016
## Biosimilars: regulatory and data milestones

<table>
<thead>
<tr>
<th>Etanercept</th>
<th>Pegfilgrastim</th>
<th>Infliximab¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Erelzi® obtained US approval; unanimous vote by FDA’s Arthritis Advisory Committee</td>
<td>• Discussions with FDA and EMA ongoing</td>
<td>• Phase III trial demonstrated equivalent efficacy² and safety of biosimilar infliximab to Remicade®³</td>
</tr>
</tbody>
</table>
| • FDA approved Erelzi® for all indications included in reference product | • Plan to initiate additional study to address data request  
  − Potential data submission in ~2018 | • Trial was conducted in patients with rheumatoid arthritis |
| • Application for biosimilar etanercept in EU was accepted by EMA; review ongoing | | • Trial also assessed transition from Remicade® to biosimilar infliximab |

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¹ Rights to biosimilar infliximab (PF-06438179) in the European Economic Area were acquired from Pfizer  
² As measured by ACR20 (American College of Rheumatology)  
³ Remicade® is a registered trademark of Janssen Biotech, Inc.
## Biosimilars on track for multiple potential approvals

<table>
<thead>
<tr>
<th>Molecule</th>
<th>Indication</th>
<th>Originator²</th>
<th>Agency</th>
<th>Filing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Etanercept</td>
<td>Rheumatoid Arthritis</td>
<td><img src="image" alt="Enbrel" /></td>
<td>FDA</td>
<td>2015 (approved) ✓</td>
</tr>
<tr>
<td>Etanercept</td>
<td>Rheumatoid Arthritis</td>
<td><img src="image" alt="Enbrel" /></td>
<td>EMA</td>
<td>2015 ✓</td>
</tr>
<tr>
<td>Pegfilgrastim</td>
<td>Neutropenia</td>
<td><img src="image" alt="Neulasta" /></td>
<td>FDA</td>
<td>2015³ ✓</td>
</tr>
<tr>
<td>Pegfilgrastim</td>
<td>Neutropenia</td>
<td><img src="image" alt="Neulasta" /></td>
<td>EMA</td>
<td>2015 ✓</td>
</tr>
<tr>
<td>Epoetin subcutaneous</td>
<td>Anemia</td>
<td><img src="image" alt="Epoetin Alfa" /></td>
<td>EMA</td>
<td>2015 (approved) ✓</td>
</tr>
<tr>
<td>Rituximab</td>
<td>Non-Hodgkin’s Lymphoma</td>
<td><img src="image" alt="Rituxan" /></td>
<td>EMA</td>
<td>2016 ✓</td>
</tr>
<tr>
<td>Epoetin</td>
<td>Anemia</td>
<td><img src="image" alt="Epoetin Alfa" /></td>
<td>FDA</td>
<td>2016</td>
</tr>
<tr>
<td>Adalimumab</td>
<td>Rheumatoid Arthritis</td>
<td><img src="image" alt="Humira" /></td>
<td>FDA</td>
<td>2016</td>
</tr>
<tr>
<td>Adalimumab</td>
<td>Rheumatoid Arthritis</td>
<td><img src="image" alt="Humira" /></td>
<td>EMA</td>
<td>2017</td>
</tr>
<tr>
<td>Rituximab</td>
<td>Non-Hodgkin’s Lymphoma</td>
<td><img src="image" alt="Rituxan" /></td>
<td>FDA</td>
<td>2017</td>
</tr>
<tr>
<td>Infliximab</td>
<td>Inflammatory Bowel Disease</td>
<td><img src="image" alt="Remicade" /></td>
<td>EMA</td>
<td>2017</td>
</tr>
</tbody>
</table>

1. Main indication only   2. All trademarks are the property of the respective originator companies   3. Complete Response Letter received in June 2016
Agenda

1. Group review                Joseph Jimenez, Chief Executive Officer
2. Financial review            Harry Kirsch, Chief Financial Officer
3. Development                Vas Narasimhan, Global Head Drug Development & CMO
4. Closing                    Joseph Jimenez, Chief Executive Officer
5. Q&A session                Executive team
Q3 shows strong innovation as we invest in growth opportunities

- Growth Products offset Glivec® LoE
- Launches progressing well
- Strong innovation for future growth
- Full year results 2016; R&D Update in Basel, Switzerland, January 25, 2017
Agenda

1. Group review  Joseph Jimenez, Chief Executive Officer
2. Financial review  Harry Kirsch, Chief Financial Officer
3. Development  Vas Narasimhan, Global Head Drug Development & CMO
4. Closing  Joseph Jimenez, Chief Executive Officer
5. Q&A session  Executive team
Q&A
Appendix
Achieved and expected highlights from regulatory Newsflow

<table>
<thead>
<tr>
<th></th>
<th>H1 2016</th>
<th>H2 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cosentyx®</td>
<td>Cosentyx®</td>
</tr>
<tr>
<td></td>
<td>FDA action in ankylosing spondylitis</td>
<td>FDA action in psoriatic arthritis</td>
</tr>
<tr>
<td></td>
<td>Ilaris®</td>
<td>FDA action for advanced non functional NET (GI / lung origin)</td>
</tr>
<tr>
<td></td>
<td>Regulatory filings in US¹, EU and JP for periodic fever syndromes</td>
<td>Regulatory filings in US and EU for both ASM and AML²</td>
</tr>
<tr>
<td></td>
<td>Afinitor®</td>
<td>PMDA action in BRAF V600+ metastatic melanoma</td>
</tr>
<tr>
<td></td>
<td>PKC412</td>
<td>Regulatory filings in EU and US for sporadic inclusion body myositis</td>
</tr>
<tr>
<td></td>
<td>Tafinlar® + Mekinist®</td>
<td>Regulatory filings in US and EU for BRAF V600+ NSCLC²</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Regulatory filings in US and EU for adjuvant RCC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EU and PMDA action in advanced non functional NET</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Submission in US and EU 1st line HR+ HER2(-) mBC</td>
</tr>
</tbody>
</table>

1. Approved by FDA in Q3  2. Filed in the EU
Planned filings\(^a\) 2016 to \(\geq\) 2020

<table>
<thead>
<tr>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>(\geq) 2020</th>
</tr>
</thead>
</table>
| LEE011 + lif 
HR+, HER2 (postmenopausal) 
Adv. BC 1st line | Tafinlar\(^b\) + Mekinist\(^b\) 
BRAF V600+ NSCLC | CTL019 
Pediatric acute lymphoblastic leukemia | INC280 
NSCLC | ABL001 
CNL \(^c\) |
| PKC412 \(^a\) AML | Tasigna\(^b\) 
CNL tumor free remission | OAP030\(^b\) 
NAMD \(^c\) | LCI699 
Cushing’s disease | BYL719 + fulv 
HR+, HER2 (postmenopausal) 
Adv. BC 2nd line | ASB183 
Solid and hematologic tumors |
| Afinitor\(^b\)/Votubia\(^b\) 
TSC seizures | Signifor\(^b\) LAR\(^b\) 
Cushing’s disease | RLX030 
Acute heart failure | RTH258 
nAMD \(^d\) | BQJ398 
Solid tumors |
| Arzerra\(^b\) 
CLL (relapsed) | Adalimumab (US) 
GP2017 | ACZ885 
Soc. prev. CV events \(^e\) | Entresto\(^b\) 
Heart failure (PEF) \(^f\) | BYM338 
Hp fructose |
| Ilaris\(^b\) 
Periodic fever syndromes | Epoetin-alfa (US) 
HS7/5 | CTL019 
DLBCL \(^b\) | Cosentyx\(^b\) 
rAxSpA \(^d\) | CAD106 
Alzheimer’s disease |
| Lucentis\(^b\) 
CNV | Rituximab (EU) 
GP2013 | FTY720 
Pediatric MS \(^b\) | LEEO11+ fulv 
HR+, HER2 (postmenopausal) 
Adv. BC 1st line | Lucentis\(^b\) 
ROP \(^b\) | CJM112 
Immune disorders |
| PKC412 \(^a\) ASM | | | | | VAY736 
Primary Spiesgen’s syndrome |

**Combination abbreviations:**
- fulv: fulvestrant
- lif: letrozole
- txm: tamoxifen
- gsn: goserelin
- NSAI: Non-steroidal aromatase inhibitor

| 1. Breast cancer |
| 2. Acute myeloid leukemia |
| 3. Tuberous sclerosis complex |
| 4. Chronic lymphocytic leukemia |
| 5. Choroidal neovascularization (CNV) secondary to conditions other than macular degeneration and pathologic myopia |
| 6. Aggressive systemic mastocytosis |
| 7. Non-small cell lung cancer |
| 8. Chronic myeloid leukemia |
| 9. Long-acting release |
| 10. Neovascular age-related macular degeneration |
| 11. Secondary prevention of cardiovascular events |
| 12. Diffuse large B-cell lymphoma |
| 13. Multiple sclerosis |
| 15. Non-radiographic axial spondyloarthritis |
| 16. Secondary progressive multiple sclerosis |
| 17. Preserved ejection fraction |
| 18. Graft-Versus-Host Disease |
| 19. Retinopathy of prematurity |
| 20. Relapsing multiple sclerosis |
| 21. Non-alcoholic steatohepatitis |
| 22. Chronic spontaneous urticaria / Inducible urticaria |
| 23. Diabetic macular edema |

\(^a\) AMG 334 is not included in this view. AMG 334 is part of the global collaboration with Amgen to commercialize and develop neuroscience treatments.
\(^b\) Submitted in US and EU.
\(^c\) Approved in US, submitted in EU.
\(^d\) Also known as Fovista\(^b\) (peglerfanib). This product is being developed by Ophthotech Corp. Ophthotech has licensed ex-US commercialization rights to Novartis under a Licensing and Commercialization Agreement.

**New molecule**

**New indication**

**New formulation**

**Biosimilars**

**Novartis Q3 2016 Results | October 25, 2016 | Novartis Investor Presentation**
# Pipeline of key projects in confirmatory development

<table>
<thead>
<tr>
<th>Post-PoC</th>
<th>Phase III / Pivotal</th>
<th>In Registration</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABL001 CML&lt;sup&gt;1&lt;/sup&gt;</td>
<td>AMG 334&lt;sup&gt;b&lt;/sup&gt; Migraine</td>
<td>PKC412 AML&lt;sup&gt;13&lt;/sup&gt;</td>
</tr>
<tr>
<td>ASB183 Solid and hematologic tumors</td>
<td>BAF312 NHL&lt;sup&gt;11&lt;/sup&gt; (refractory)</td>
<td>Afinitor&lt;sup&gt;®&lt;/sup&gt;/Votubia&lt;sup&gt;®&lt;/sup&gt; TSC&lt;sup&gt;2&lt;/sup&gt; seizures</td>
</tr>
<tr>
<td>BGJ398 Solid tumors</td>
<td>BYL719 + fulv HR+ HER2+ (neoadjuvant) Adv. BC 2&lt;sup&gt;nd&lt;/sup&gt; line</td>
<td>Arzerra&lt;sup&gt;®&lt;/sup&gt; CLL&lt;sup&gt;2&lt;/sup&gt; (extended treatment)</td>
</tr>
<tr>
<td>CAD106 Alzheimer’s disease</td>
<td>CTL019 DLBCL&lt;sup&gt;11&lt;/sup&gt;</td>
<td>Arzerra&lt;sup&gt;®&lt;/sup&gt; CLL&lt;sup&gt;2&lt;/sup&gt; (releasped)</td>
</tr>
<tr>
<td>CJM112 Immune disorders</td>
<td>Cosentiny&lt;sup&gt;®&lt;/sup&gt; nhrxSxS&lt;sup&gt;11&lt;/sup&gt;</td>
<td>Ilaris&lt;sup&gt;®&lt;/sup&gt; Periodic fever syndromes</td>
</tr>
<tr>
<td>CNP520 Alzheimer’s disease</td>
<td>LEE011 + Itz HR+ HER2+ (neoadjuvant) Adv. BC 1&lt;sup&gt;st&lt;/sup&gt; line</td>
<td></td>
</tr>
<tr>
<td>EMA401 Neurological pain</td>
<td>Entresto&lt;sup&gt;®&lt;/sup&gt; Heart failure (PEF)&lt;sup&gt;13&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>INC280 NSCLC&lt;sup&gt;2&lt;/sup&gt;</td>
<td>Entresto&lt;sup&gt;®&lt;/sup&gt; Post-acute myocardial infarction</td>
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<tr>
<td>KAE609 Malaria</td>
<td>LCI699 Cushings’s disease</td>
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<tr>
<td>KAF156 Malaria</td>
<td>OAP030&lt;sup&gt;2&lt;/sup&gt; nAMD&lt;sup&gt;3&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>LIK006 Metabolic disorders</td>
<td>QCW039&lt;sup&gt;2&lt;/sup&gt; Asthma</td>
<td></td>
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<tr>
<td>LJN716 Solid tumors</td>
<td>QA039&lt;sup&gt;2&lt;/sup&gt; Early myeloblastosis</td>
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<tr>
<td>LJN452 NASH&lt;sup&gt;4&lt;/sup&gt;</td>
<td>OP030&lt;sup&gt;2&lt;/sup&gt; Asthma</td>
<td></td>
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<tr>
<td>JIM447 Hematologic tumors</td>
<td>RLFX030 Acute Heart failure</td>
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<tr>
<td>QBE251 Cystic fibrosis</td>
<td>RTH258 nAMD&lt;sup&gt;3&lt;/sup&gt;</td>
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<tr>
<td>QGW031 Cystic fibrosis</td>
<td>LEE011 + fulv HR+ HER2+ (neoadjuvant) Adv. BC 2&lt;sup&gt;nd&lt;/sup&gt; line</td>
<td></td>
</tr>
<tr>
<td>VAY736 Primary Sjogren’s syndrome</td>
<td>LEE011+ tms + gnr+ NSAI + gnr HR+ HER2+ (neoadjuvant) Adv. BC 1&lt;sup&gt;st&lt;/sup&gt; line</td>
<td></td>
</tr>
<tr>
<td>BYM338 Hip fracture</td>
<td>Lucentis&lt;sup&gt;®&lt;/sup&gt; Fulv (CML)</td>
<td></td>
</tr>
<tr>
<td>BYM338 Sarcopenia</td>
<td>QVM149 Asthma</td>
<td></td>
</tr>
<tr>
<td>Jakavi&lt;sup&gt;®&lt;/sup&gt; GVHD&lt;sup&gt;1&lt;/sup&gt;</td>
<td>RTH258 DME&lt;sup&gt;2&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>OAW039 Atopic dermatitis</td>
<td>Tafinlar&lt;sup&gt;®&lt;/sup&gt; + Mekinist&lt;sup&gt;®&lt;/sup&gt; BRAF V600+ Melanoma (adjuvant)</td>
<td></td>
</tr>
<tr>
<td>Tafinlar&lt;sup&gt;®&lt;/sup&gt; + Mekinist&lt;sup&gt;®&lt;/sup&gt; BRF V600+ Colorectal cancer</td>
<td>Tafinlar&lt;sup&gt;®&lt;/sup&gt; + Mekinist&lt;sup&gt;®&lt;/sup&gt; BRAF V600+ NSCLC&lt;sup&gt;2&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>LCA699 Cushings’s disease</td>
<td>Zykadia&lt;sup&gt;®&lt;/sup&gt; ALK+ adv NSCLC&lt;sup&gt;®&lt;/sup&gt; (Brain metastases)</td>
<td></td>
</tr>
<tr>
<td>OAP030&lt;sup&gt;2&lt;/sup&gt; nAMD&lt;sup&gt;3&lt;/sup&gt;</td>
<td>Zykadia&lt;sup&gt;®&lt;/sup&gt; ALK+ adv NSCLC&lt;sup&gt;®&lt;/sup&gt; (1&lt;sup&gt;st&lt;/sup&gt; line, treatment naive)</td>
<td></td>
</tr>
<tr>
<td>QA039&lt;sup&gt;2&lt;/sup&gt; Asthma</td>
<td>Signifor&lt;sup&gt;®&lt;/sup&gt; LAR&lt;sup&gt;18&lt;/sup&gt; Cushing’s disease</td>
<td></td>
</tr>
<tr>
<td>RLX030 Acute Heart failure</td>
<td>Adalimumab (US/EU) GP2017</td>
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<tr>
<td>RTH258 nAMD&lt;sup&gt;3&lt;/sup&gt;</td>
<td>Epoetin-alfa (US) HX575</td>
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</tr>
<tr>
<td>CAZ885 Sec. Proc. CV events&lt;sup&gt;2&lt;/sup&gt;</td>
<td>Infliximab (EU) GP 1111</td>
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<td>OMF149 Asthma</td>
<td>Lucentis&lt;sup&gt;®&lt;/sup&gt; RP16&lt;sup&gt;14&lt;/sup&gt;</td>
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<td>Park&lt;sup&gt;®&lt;/sup&gt;</td>
<td>OMB157 RMS&lt;sup&gt;18&lt;/sup&gt;</td>
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<td>PKC412 AML&lt;sup&gt;13&lt;/sup&gt;</td>
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<td>Rituximab (EU) GP2013</td>
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<td>Ilaris&lt;sup&gt;®&lt;/sup&gt; Periodic fever syndromes</td>
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**Combination abbreviations:**

- fulv fulvestrant
- Itz letrozole
- tms tamoxifen
- gnr goserelin
- NSAI Non-steroidal aromatase inhibitor

1. Chronic myeloid leukemia
2. Non-small cell lung cancer
3. Non-alcoholic steatohepatitis
4. Chronic spontaneous urticaria / Inducible urticaria
5. Graft Versus-Host Disease
6. Secondary progressive multiple sclerosis
7. Breast cancer
8. Neuropsychiatric age-related macular degeneration
9. Secondary prevention of cardiovascular events
10. Non-Hodgkin’s lymphoma
11. Diffuse large B-cell lymphoma
12. Non-radiographic axial spondyloarthritis
13. Preserved ejection fraction
14. Multiple sclerosis
15. Retinopathy of prematurity
16. Relapsing multiple sclerosis
17. Diabetic macular edema
18. Long acting release
19. Acute myeloid leukemia
20. Tuberous sclerosis complex
21. Chronic lymphocytic leukemia
22. Choroidal neovascularization (CNV) secondary to conditions other than macular degeneration and pathologic myopia
23. Aggressive systemic mastocytosis

a) In collaboration with Amgen; Novartis has AMG 334 rights outside of US, Canada and Japan.

b) Also known as Fovista<sup>®</sup> (pegfilgrastim). This product is being developed by Ophthotech Corp. Ophthotech has licensed ex-US commercialization rights to Novartis under a Licensing and Commercialization Agreement.

c) Approved in US, submitted in EU.
Key definitions and trademarks

This presentation contains several important words or phrases that we define as below:

AML: Acute myeloid leukemia
Approval: In Pharmaceuticals and Alcon in US and EU; each indication and regulator combination counts as approval; excludes label updates, CHMP opinions alone and minor approvals
aRCC: advanced renal cell cancer
ARNI: Antiangin receptor neprilysin inhibitor
AS: Ankylosing Spondylitis
ASM: Aggressive systemic mastocytosis
Base business: Continuing Oncology assets unaffected by the GSK transaction
BTD: Breakthrough therapy designation
cc: constant currencies
CGRP: Calcitonin gene-related peptide
cITP: Chronic immune thrombocytopenia
CM: Chronic migraine
CML: Chronic myeloid leukemia
COPD: Chronic Obstructive Pulmonary Disease
CSU / CIU: Chronic spontaneous urticaria / Chronic idiopathic urticaria
EM: Episodic migraine
Growth Products are an indicator of the rejuvenation of the portfolio, and comprise products launched in a key market (EU, US, Japan) in 2011 or later, or products with exclusivity in key markets until at least 2020 (except Sandoz, which includes only products launched in the last 24 months). They include the acquisition effect of the GSK oncology assets
HF: Heart failure
HFrEF: Heart failure with reduced ejection fraction
HR+/HER2- mBC: Hormone Receptor positive / Human Epidermal growth factor receptor 2 negative metastatic breast cancer
LoE: Loss of exclusivity
MF: Myelofibrosis
MI: Myocardial infarction
MS: Multiple sclerosis
NET: Neuroendocrine tumor
New assets: Assets acquired in the GSK transaction which closed on March 2, 2015

NSAI: Nonsteroidal aromatase inhibitor
NSCLC: Non-small cell lung cancer
ORR: Overall response rate
OS: Overall survival
PA: Prior authorization
PASI 90: 90% reduction in Psoriasis Area Severity Index from baseline
PFS: Progression free survival
PsA: Psoriatic arthritis
Pso: Psoriasis
PV: Polycythemia vera
PY: Prior year
RCC: Renal cell cancer
SAA: Severe aplastic anemia
scFv: Single chain variable fragment
SPMS: Secondary progressive multiple sclerosis

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