Medivir presenting at

Rodman & Renshaw Healthcare Conference
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Börje Darpö, VP Development
Rein Piir, CFO / IR

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Medivir - Key achievements 2008

- Strong phase IIa data presented for TMC435 (hepatitis C protease inhibitor)
- Our biggest deal ever signed with JNJ/Tibotec for hepatitis C polymerase inhibitors (>USD 190m)
- Applications for approval of Lipsovir (labial herpes) filed in the US and Europe
- Co-promotion deal for GSK products in the Nordic countries
- Burn rate substantially reduced to approx. USD 7m per quarter going forward
- Strong cash position by end of Q3 (USD 38m)
Steadily increasing revenues since 2004
~USD 400m in remaining milestone payments

- Royalties on global sales
- Nordic marketing rights retained
- All future project expenses covered
- Research funding in two collaborations
### Prioritized projects

<table>
<thead>
<tr>
<th>Project</th>
<th>Indication(s)</th>
<th>Partners/ Date of agreement</th>
<th>Terms</th>
<th>Medivir's markets</th>
<th>Explorative phase</th>
<th>Optimization</th>
<th>Preclinical dev.</th>
<th>Phase I</th>
<th>Phase II</th>
<th>Phase III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lipsovir® (ME-609)</td>
<td>Labial herpes</td>
<td>In-house</td>
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<tr>
<td>TMC435350 (HCV-Pi)</td>
<td>Hepatitis C</td>
<td>Tibotec / 2004</td>
<td>EUR 80.5 m+ royalties and FTE funding</td>
<td>Nordic region</td>
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<tr>
<td>MIV-701 (Cath K)</td>
<td>Osteoporosis, osteoarthritis, bone metastases</td>
<td>In-house</td>
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<tr>
<td>Cathepsin K</td>
<td>Osteoporosis, osteoarthritis, bone metastases</td>
<td>In-house</td>
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<tr>
<td>HIV PI</td>
<td>HIV</td>
<td>Tibotec / 2006</td>
<td>EUR 64 m + royalties and FTE funding</td>
<td>Nordic region</td>
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<tr>
<td>HCV POL</td>
<td>Hepatitis C</td>
<td>Roche / 2003 / In-house</td>
<td>Undisclosed</td>
<td>Nordic region</td>
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<tr>
<td>HCV POL</td>
<td>Hepatitis C</td>
<td>Tibotec / 2008</td>
<td>EUR 142-272 m + royalties and FTE funding</td>
<td>Nordic region</td>
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<td>COPD PI</td>
<td>COPD</td>
<td>In-house (Hengrui)</td>
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<td>World excl. China</td>
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<td>Renin</td>
<td>Hypertension</td>
<td>In-house</td>
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<tr>
<td>BACE</td>
<td>Alzheimer’s</td>
<td>In-house</td>
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<tr>
<td>Cathepsin S</td>
<td>Rheumatoid arthritis, multiple sclerosis</td>
<td>In-house</td>
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- **Filed for approval**
- **Phase IIb to be initiated**
- **New deal**
- **Prioritised preclinical program**

*The regulated preclinical development phase.*
## Pipeline (continued)

**Medivir HIV Franchise AB**

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<th>Phase III</th>
<th>NDA</th>
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<tbody>
<tr>
<td>Valomaciclovir (MIV-606)</td>
<td>Shingles, herpes virus</td>
<td>Epiphany Biosciences / 2006</td>
<td>24.5 MUSD + royalties. Epiphany shares</td>
<td>Nordic region</td>
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<td>Alovudine (MIV-310)</td>
<td>HIV</td>
<td>Mefuvir / 2007</td>
<td>Royalties</td>
<td>World excl. Asia</td>
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<tr>
<td>MIV-210</td>
<td>Hepatitis B, HIV</td>
<td>Hainan Noken / 2007</td>
<td>7 MUSD + royalties</td>
<td>World excl. China, Taiwan and Macao</td>
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<td>MIV-150</td>
<td>HIV</td>
<td>Population Council / 2003</td>
<td>Option on 50% of Western world</td>
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<td>MIV-160</td>
<td>HIV</td>
<td>Mefuvir / 2007</td>
<td>Mefuvir shares and royalties</td>
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<td>MIV-410</td>
<td>HIV, CMV</td>
<td>Presidio / 2006</td>
<td>52.25 MUSD + royalties. Presidio shares</td>
<td>Nordic region and UK. Option on Europe</td>
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<td>MIV-170</td>
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- Polymerase inhibition/hydrocortisone
- Protease inhibitor
- Polymerase inhibitor

1) The regulated preclinical development phase.
### Commercial focus in the coming 6-12 months

<table>
<thead>
<tr>
<th>LIPSOVIR</th>
<th>Secure optimal partnership structure for both US &amp; EU</th>
</tr>
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<tbody>
<tr>
<td>HEPATITIS C</td>
<td>TMC435: start phase IIb trials</td>
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<tr>
<td></td>
<td>HCV-Polymerase inhibitors: candidate drug selection(s)</td>
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<tr>
<td>CATHEPSIN K</td>
<td>Select follow-on candidate drug</td>
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<tr>
<td></td>
<td>Start partnering process</td>
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<tr>
<td>HIV PI</td>
<td>Candidate drug selection</td>
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<tr>
<td>Other preclinical</td>
<td>Initiate partner discussions for at least one program</td>
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<tr>
<td>PHARMA SALES</td>
<td>Continue selling GSK products in Sweden</td>
</tr>
<tr>
<td></td>
<td>Secure new co-promotion deals and potential own product(s)</td>
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</table>
Lipsovir® summary

- Topical product for the treatment of recurrent labial herpes (cold sores)
- Active ingredients: 5% acyclovir + 1% hydrocortisone in a proprietary cream formulation
- Hits the virus AND the immune reaction
- Phase III program completed, including biggest labial herpes trial ever
- Filed for approval in EU/US October 2008
- First product to prevent cold sores
  - Currently marketed products reduce healing time modestly without preventive effect on emerging lesions
Market opportunity

- At any given time 60 million people have a cold sore
- Sufferers experience pain, self-consciousness, social isolation, anxiety
- Current treatments offer marginal benefits
- Global Rx/OTC market for cold sore treatments approximately USD 700m
- Strong annual growth: OTC +$11.6% and Rx +$9%
- US, UK, Germany, France and Italy account for 45% of Rx and OTC markets
- Strong consumer and physician interest in Lipsovir®
Phase III results:
Lipsovir prevents cold sores and shortens episodes

- **Primary endpoint = prevention**
  - Lipsovir® prevents cold sores in 42% of subjects with an emerging lesion
    - Lipsovir® > acyclovir in our vehicle (p<0.01)
    - Lipsovir® > vehicle (p<0.05)

- **Secondary endpoint = episode duration**
  - Lipsovir® > vehicle on episode duration (p<0.05)
  - Lipsovir® reduces the healing time by 1.6 days
Medivir has a broad interest in the HCV area

- TMC435, a protease inhibitor in collaboration with Tibotec/J&J - in later part of phase IIa clinical trials
  Planning for phase IIb has started

- HCV POL collaboration with Tibotec/J&J signed May, 2008
  - Nucleoside analogue in lead optimization phase
  - Back-up nucleosides
  - Screening of Medivir library of nucleoside analogues
Opportunities with new antivirals in HCV

• **Improved efficacy (improved cure rates)**
  - Only 50% of treatment naive G1 patients are cured today
  - Non-responders and relapsers to current standard-of-care - increasing population

• **Shorter treatment time**

• **Improved side effect profile**

• **More convenient dosing**

• **Longer term - treatment shift in SoC**
TMC435 - a protease inhibitor in collaboration with Tibotec

Presently in the final stage of phase Ila for genotype 1 naïve patients

Phase IIb planning has started
TMC435 Phase I trial conclusions

- High potency + favourable PK
  - allow once daily dosing
  - plasma levels far in excess of predicted effect levels in HCV patients

- Five-day treatment with 200 mg once daily resulted in a marked antiviral effect in non-responding HCV G1 patients

- Has been well tolerated in healthy volunteers and HCV patients over 5 days of dosing
Rapid decline in HCV viral load observed in all HCV-infected individuals (Genotype 1a and 1b) in phase Ib

- Therapeutic history: non-responders and relapsers
- Baseline viral load 6.3-7.3 Log10 (IU/mL)
- No virologic breakthrough during dosing or in the following three days
TMC435: Data presented at AASLD 2008

1. Safety data from 25 and 75 mg once daily groups in phase 2a study Opera-1
   - Study is still on-going
   - 200 mg once daily evaluated in treatment naïve patients
   - several doses evaluated in treatment experienced HCV G1 patients

2. PK data from same patient groups in Opera-1

3. In-vitro characterization of inhibitory activity on proteases from genotype 1 to 6
Opera-1: Design of Study, 1st cohort (25 and 75 mg once daily or placebo)

Figure 3: Overview of Study Design of cohort 1 of OPERA-1 trial in treatment-naive patients.

<table>
<thead>
<tr>
<th>Panel A</th>
<th>N=9</th>
<th>N=10</th>
<th>N=6</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>TMC435 25 mg</td>
<td>TMC435 25 mg + PEG-IFNα-2a / RBV</td>
<td>PEG-IFNα-2a / RBV</td>
</tr>
<tr>
<td></td>
<td>TMC435 75 mg</td>
<td>TMC435 75 mg + PEG-IFNα-2a / RBV</td>
<td>PEG-IFNα-2a / RBV</td>
</tr>
<tr>
<td></td>
<td>Placebo</td>
<td>Placebo + PEG-IFNα-2a / RBV</td>
<td>PEG-IFNα-2a / RBV</td>
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</table>

<table>
<thead>
<tr>
<th>Panel B</th>
<th>N=9</th>
<th>N=9</th>
<th>N=7</th>
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</thead>
<tbody>
<tr>
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<td>TMC435 25 mg + PEG-IFNα-2a / RBV</td>
<td>PEG-IFNα-2a / RBV</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TMC435 75 mg + PEG-IFNα-2a / RBV</td>
<td>PEG-IFNα-2a / RBV</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Placebo + PEG-IFNα-2a / RBV</td>
<td>PEG-IFNα-2a / RBV</td>
<td></td>
</tr>
</tbody>
</table>

PegIFNα-2a (180 μg SC weekly): Pegasys®
RBV (1000 to 1200 mg daily): Copegus ®
SoC treatment for 24 or 48 weeks at the discretion of the investigator
Opera-1 (cohort 1): Antiviral efficacy (1)

- Strong dose dependent, antiviral effect, which was more pronounced with 4-weeks triple therapy.

- No viral breakthrough observed with 4-week triple therapy with 25 and 75 mg TMC435.

- Largest viral load reduction observed in the 75 mg OD: $-5.5 \log_{10} \text{IU/mL}$.

Figure 5: Mean HCV-RNA change per treatment arm from baseline to Day 28.
## Opera-1 (cohort 1): Antiviral efficacy (2)

### Table 3: Mean HCV RNA changes from baseline and number of patients with HCV RNA levels below lower limit of quantification (LLQ) and detection (LLD) per treatment arm.

<table>
<thead>
<tr>
<th>Dose/Treatment</th>
<th>Time point (Day)</th>
<th>Mean HCV-RNA change (Log$_{10}$ IU/mL)</th>
<th>&lt; LLQ n/N 25 IU/mL</th>
<th>&lt; LLD n/N 10 IU/mL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel A Placebo</td>
<td>7</td>
<td>-0.08</td>
<td>0/6</td>
<td>0/6</td>
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<tr>
<td>Panel A TMC435 25 mg</td>
<td>7</td>
<td>-2.63</td>
<td>1/9</td>
<td>0/9</td>
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<tr>
<td>Panel A TMC435 75 mg</td>
<td>7</td>
<td>-3.43</td>
<td>0/9</td>
<td>0/9</td>
</tr>
<tr>
<td>Panel B Placebo</td>
<td>7</td>
<td>-1.77</td>
<td>0/6</td>
<td>0/6</td>
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<tr>
<td></td>
<td>14</td>
<td>-2.56</td>
<td>0/6</td>
<td>0/6</td>
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<td></td>
<td>28</td>
<td>-3.83</td>
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<td>2/6</td>
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<tr>
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<td>7</td>
<td>-3.47</td>
<td>1/9</td>
<td>0/9</td>
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<tr>
<td></td>
<td>14</td>
<td>-4.19</td>
<td>3/9</td>
<td>1/9</td>
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<tr>
<td></td>
<td>28</td>
<td>-4.74</td>
<td>6/9</td>
<td>3/9</td>
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<td>Panel B TMC435 75 mg</td>
<td>7</td>
<td>-4.55</td>
<td>1/9</td>
<td>0/9</td>
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<td></td>
<td>14</td>
<td>-5.15</td>
<td>7/9</td>
<td>3/9</td>
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<tr>
<td></td>
<td>28</td>
<td>-5.52</td>
<td>9/9</td>
<td>8/9</td>
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</tbody>
</table>

HCV RNA levels were assessed with Roche COBAS Taq Man HCV/HPS assay v2 with an LLQ of 25 IU/mL and an LLD of ~10 IU/mL. To calculate mean HCV RNA values, results below LLQ are imputed with 24 IU/mL and values below LLD with 9 IU/mL.
Opera-1 (cohort 1): Conclusions

TMC435 25 and 75 mg once daily in combination with SoC demonstrated dose-dependent potent antiviral efficacy and a favorable safety profile when dosed up to 28 days in treatment naïve HCV genotype 1 patients

Efficacy
• 4 weeks of triple therapy with 75 mg TMC435 once daily resulted in a viral load reduction of -5.5 log_{10} IU/mL and 8 of 9 (89%) patients with undetectable virus

Safety
• All patients completed 4 weeks of TMC435 dosing and continued on SoC
• All TMC435-related AEs were of mild or moderate intensity (grade 1 or 2)
• Most common TMC435-related AEs were headache, nausea and diarrhea
• No Tx discontinuations due to adverse events
Opera-1 (cohort 1): PK data

PK Conclusions:

- 25 and 75 mg TMC OD generated plasma levels well in excess (12 to 44-fold) of targeted efficacious levels (replicon EC$_{50}$)
- Steady state achieved within 3 days in HCV G1 patients
- Dose proportional increase of exposure from 25 to 75 mg OD
- No clinically relevant drug-interactions between SoC and TMC435
In-vitro inhibition of genotype 1 to 6 proteases

TMC435 is a potent inhibitor of NS3/4A protease from genotype 1 to 6, with IC\textsubscript{50} values below 13 nM for all except genotype 3A (37 nM)
HCV PI Competitive Landscape

- **Pre-clin**
  - Abbott
  - Phenomix

- **Ph I**
  - Vertex-500
  - ITMN-191/R7227 (Roche/ITMN)
  - MK7009

- **Ph Ib/IIa**
  - TMC435 (J&J/ Medivir)
  - BI 201335

- **Ph IIb**
  - Boceprevir (SGP)

- **Ph III**
  - Telaprevir (J&J/Vertex)

Combination with PEG-IFN
In collaboration with Tibotec Pharmaceuticals

HCV Polymerase

Existing HCV polymerase compounds
Hepatitis C Polymerase - Medivir/J&J program

Status
• Partnership with Tibotec / Johnson & Johnson since May 15 2008

Process
• Jointly develop Medivir’s existing HCV polymerase NS5B inhibitors from preclinical towards clinical development and screening of Medivir polymerase library’s for HCV

Patents
• Extensive and non-limiting IP

Licensing agreement
• Upfront & milestones of € 147m + royalties on sales for one product reaching market.
• Additional € 130m for second compound and indication reaching market + royalties on sales. Will be based on screening of Medivir nucleoside library’s

FTE Funding
• All development costs covered by JNJ
• Nordic rights retained by Medivir
Medivir - Project Summary 2008

- Strong phase IIa data presented for TMC435 in HCV patients
  - Phase IIb will soon start

- Initiated late preclinical collaboration with JNJ/Tibotec on hepatitis C polymerase inhibitors

- Applications for approval of Lipsovir (labial herpes) filed in the US and Europe October 2008