"Dawning Era in Drug Discovery with Natural Resources in Asia"

Atsushi Hasuoka
Drug Alliance Expert Working Group (DAEWG)
Introduction to the DA Session

Topics

1. Update on DAEWG activity

2. Reason for selecting "drug discovery with natural compounds" as the theme of the DA session
Mission and Strategy

Mission of DAEWG
Promote *cross-border open innovation in Asia* to develop innovative medicines for patients in Asia

Strategy
*Focus on critical drug R&D areas and promote them in collaboration with Asian countries*
Each pillar activity corresponds to critical drug R&D process

Pillar 3: Capacity building

Target identification → Drug seeds identification → Information sharing about drug seeds → BD of drug candidates

Pillar 4: Asia specific disease
- Goal setting underway

Pillar 5: Drug discovery using natural compounds
- Collaboration with JPMA R&D Committee started

Pillar 1: Information sharing about drug seeds

Pillar 2: Alliance of drug candidates

✓ Core platform available to promote cross-border open innovation
Pillar 1
~Information sharing about drug seeds~

- DAEWG have been closely collaborating with Osaka Chamber of Commerce & Industry (OCCI)
- OCCI has been leading in establishing information sharing platform
  ✓ "Drug Seeds Alliance Network in Asia (DSANA)", Asian-wide information sharing platform, was launched (http://willsonline.jp/dsana)
  ✓ Information about selected drug seeds from Japanese academia was shared with Taiwanese companies in 2016
DAEWG arranges "APAC Business Development Partnering Conference" in Bio Japan every year

✓ Overview of the event in 2016

[Schedule] 1.00 pm - 4.00 pm Wednesday, October 12, 2016
[Venue]: Harbor Lounge-B, Annex Hall, Pacifico Yokohama

16 Asian bio-ventures and 9 Japanese pharma attended

Progress of "Pillar 1 and 2" will promote cross-border open innovation in Asia!
Reasons for focusing on cross-border open innovation using natural compounds

1. Potential of natural compound as an useful starting point in drug discovery
2. Advantages in doing drug discovery using natural compounds
3. Capacity building of researchers in Asian countries
Potential of natural compound as an effective starting point in drug discovery

- Useful medicines were developed from natural compounds and saved a lot of patients

- Natural compound is an important starting point for drug discovery
Requirements for an effective collaboration using natural compounds

- **Natural environment/resources producing natural compounds with useful biological activity**: ✓ Library of natural compounds
- **Geographical proximity enables close collaboration between researchers in Asian countries**
- **Scientific expertise and know-hows for drug discovery**: ✓ Organic synthesis ✓ Structural analysis, etc.
- **Progress of collaboration between Japanese pharma companies to tackle mutual challenges**

**Asia has advantages in doing drug discovery using natural compounds**
Expected outcomes from cross-border open innovation using natural compounds

- Collaboration using natural compounds requires participation of researchers from Asian countries
- Researchers could learn by each other and improve their expertise by participating in the collaboration
- Capacity building is critical to ensure sustainability of cross-border open innovation in Asia

Capacity Building

Development of researchers in Asian countries

Cross-border open innovation in Asia

Seeds compounds for innovative drugs
Pillar 5
~Drug discovery using natural compounds~

● **Advance Pillar 5 in collaboration with JPMA R&D Committee**
  • Leader: Dr. Nares, Thailand Center of Excellence of Life Science (TCELS)
  • Sub leader: Dr. Kawakami, (Eisai)
  • Representative from JPMA R&D Committee: Dr. Tsukahara, (Eisai)

● **Create action plans to promote collaboration using natural compounds**
  • policy for collaboration
  • sustainable research "ecosystem" including capacity building
  • a pilot collaboration project using natural compounds, etc.
Program of this year's DA session

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:15</td>
<td>Introduction to the DA Session</td>
<td>Hasuoka</td>
<td>JPMA</td>
</tr>
<tr>
<td>13:20</td>
<td><strong>Keynote Lecture</strong></td>
<td>Chair: Chi &amp; Hasuoka</td>
<td></td>
</tr>
<tr>
<td>13:20</td>
<td>Continued Efforts to Discover New Drugs using Natural Resources (tentative)</td>
<td>Shinya</td>
<td>AIST</td>
</tr>
<tr>
<td>13:45</td>
<td><strong>Presentations</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14:00</td>
<td>2. Drug discovery using natural compounds in Taiwan</td>
<td>Su</td>
<td>SynCore</td>
</tr>
<tr>
<td>14:15</td>
<td>3. Application of Natural Resources to Drug Discovery in Eisai</td>
<td>Tagami</td>
<td>Eisai</td>
</tr>
<tr>
<td>14:15</td>
<td>4. Activities of Pillar 5 (Drug Discovery by Natural Resources) Task Force</td>
<td>Nares</td>
<td>TCELS</td>
</tr>
<tr>
<td>14:45</td>
<td><strong>Panel discussion</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14:45</td>
<td>• Implementation of drug discovery using natural resources in Asia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14:45</td>
<td>• Issues &amp; solution for drug discovery by natural resources in Asia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15:10</td>
<td><strong>Session closing</strong></td>
<td>Chi</td>
<td>DCB</td>
</tr>
</tbody>
</table>
Thank You!