Issues around the Promotion of Pharmaceutical Development in Japan

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Ministry of Economy, Trade and Industry
Situation of the Bio-Pharmaceuticals in Japan
Market for Biotechnology (2008)

- Pharmaceutical, 8,915
- Agriculture /Food, 2,846
- Imported GM Crops, 11,684
- Industrial Product, 2,761
- Research Related, 2,282

100M Yen ÷ M US$

Source: Nikkei Bio Nenkan
Trend of the Bio-Pharmaceuticals

## World Best Selling Bio-Pharmaceuticals (2008)

<table>
<thead>
<tr>
<th>Product</th>
<th>Efficacy</th>
<th>Developer</th>
<th>Sales (M$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rituxan</td>
<td>Malignant Lymphoma</td>
<td>Amgen/IDEC</td>
<td>6,737</td>
</tr>
<tr>
<td>Embrel</td>
<td>Rheumatoid Arthritis</td>
<td>Amgen</td>
<td>6,447</td>
</tr>
<tr>
<td>Remicade</td>
<td>Rheumatoid Arthritis</td>
<td>Centocor</td>
<td>6,230</td>
</tr>
<tr>
<td>Epogen</td>
<td>Renal Anemia</td>
<td>Amgen</td>
<td>5,116</td>
</tr>
</tbody>
</table>

Source: Uto Brain

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Bio-Pharmaceuticals in Major Markets (2007)

Source: IMS LifeCycle
Marketed Bio-Pharmaceuticals by Originated Countries (2007)

Source: Office of Pharmaceutical Industry Research
Pre-market Bio-Pharmaceuticals

Source: Pharmaprojects

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Pre-market Bio-Pharmaceuticals by Originated Countries (2006)

Source: Pharmaprojects

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Pre-market Bio-Pharmaceuticals by Originated Countries (2006) -2

Source: Pharmaprojects
Regulation, Clinical Trial, Market
Market Lag for the Bio-Pharmaceuticals (2007)

Source: IMS Halth
Breakdown of the International Clinical Trial Including Japan (2007)

Source: Office of Pharmaceutical Industry Research

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Trend of Clinical Trials in Japan

Source: Ministry of Health, Labour and Welfare

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Source: PhRMA, *Pharmaceutical Industry Profile 2009*
Trend of a Market Size in Pharmaceuticals

Market Size (B US$)

- N. America
- Europe
- Japan
- Others

- 1994
- 2005
- 2007

Source: IMS World Review

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Trend of a Market Share by the Area

Source: IMS World Review

Market Share (%)

- N.America
- Europe
- Japan
- Others

1994 2005 2007
Trend of the National Income

![Graph showing the trend of the National Income and its growth rate from 1980 to 2007.](image)

- **National Income (T Yen)**
- **Growth Rate (%)**

Source: National Account

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Trend of a Ratio for the National Health Expenditure to the National Income

Source: Ministry of Health, Labour and Welfare / National Account
Trend of a Ratio for the Total Health Expenditure to GDP

Source: OECD, Health Data 2007
Trend of the Health Expenditure per Capita

Health Exp. per Capita (PPP US$)

US
France
Germany
UK
Italy
Japan

出所: OECD, Health Data 2007
Comparison of a Drug Price (2003)

Source: US International Trade Administration
Factors of a Health Expenditure Increasing in US (1940-1990)

Aging of Population: 4%
Increasing of Income: 7%
Increasing of the number of the Doctor: 0%
Productivity Increasing: 12%
Gap between Medical and Other Areas: 17%
Diffusion of Health Insurance: 17%
Other Factors (Improvement of the Medical Technology, Probably): 60%

Source: Woo Byung-Kwang

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<table>
<thead>
<tr>
<th>Company</th>
<th>Foreign Sales Ratio (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eisai</td>
<td>62</td>
</tr>
<tr>
<td>Takeda</td>
<td>50</td>
</tr>
<tr>
<td>Astellas</td>
<td>50</td>
</tr>
<tr>
<td>Daiichi-Sankyo</td>
<td>41</td>
</tr>
</tbody>
</table>

Source: Based on Statements by the Companies