

Eisai

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UBS Research

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Solanezumab fails; negative

- Sola's phase 3 trial fails; we expect the share price to significantly weaken
- P-value was 0.095 and signals for improvement were observed
- Are solanezumab and aducanumab 'clinically' different antibodies?
- Valuation: PT ¥9,000

Sola's phase 3 trial fails; we expect the share price to significantly weaken

Lilly (covered by analyst Marc Goodman) disclosed at 8.45pm on 22 November (JST) that the phase 3 trial for the Alzheimer's dementia treatment solanezumab in mid-cognitive patients failed and did not meet its primary endpoint ($p=0.05$). The trial result will be presented at the CTAD conference in San Diego at 11.15am on 9 December (JST). Eisai has an option to co-develop Biogen's aducanumab, and its expectations are likely to be lowered due to solanezumab's failure. We think the share price will come under significant pressure.

P-value was 0.095 and signals for improvement were observed

The P-value, which means the statistical significance, was 0.095 so it was not below the 0.05 criteria. This suggests the observed improvement was small. Lilly noted that the results including secondary endpoints were in favour of solanezumab and we believe amyloid beta hypothesis was not completely ruled out.

Are solanezumab and aducanumab 'clinically' different antibodies?

According to the current share price, we calculate that the stock market assumed a 40% probability of success for Eisai's Alzheimer's dementia program. With the failure of solanezumab, expectations are set to fall. However we believe expectations for Eisai's program will remain as 1) the P-value was 0.095 and signs of improvement were observed; 2) solanezumab and aducanumab target different amyloid beta (in contrast to solanezumab, aducanumab doesn't bind to amyloid beta monomers). Having said that, we note that aducanumab's phase 3 result will be available in 2019 at the earliest.

Valuation: PT ¥9,000

Our price target for Eisai is based on a DCF analysis using our 10-year earnings forecasts and the sum of the adjusted values of the company's Alzheimer's dementia assets. Our price target is calculated by adding ¥3,200 for its base business and ¥5,800 of value for Alzheimer's dementia program with a 60% adjustment for success probability.

12-month rating	Buy
12-month price target	¥9,000.00
Price	¥7,067.00

Trading data and key metrics

52-wk range	¥8,195-5,409
Market cap.	¥2,096bn/US\$18.9bn
Shares o/s	297m (ORD)
Free float	70%
Avg. daily volume ('000)	934
Avg. daily value (m)	¥6,049.8
Common s/h equity (03/17E)	¥574bn
P/BV (03/17E)	3.5x
Net debt / EBITDA (03/17E)	0.0x
RIC	4523.T
BBG	4523 JP

Sources: UBS, Bloomberg

EPS (reported, basic)

	UBS	Cons.
03/17E	150.6	130.3
03/18E	168.3	124.8
03/19E	212.2	132.3

Definitions of terms and abbreviations are available in the appendix section of this report, and more extensively on internet at www.ubs.com/glossary

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Analyst certification and required disclosures begin on page 3**

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Eisai

Company Profile: Eisai

Eisai got its start when Toyoji Naito established Sakuragaoka Research Institute to do pharmaceuticals research, in November 1936. The institute's name was changed to Eisai in January 1955. The scope of business expanded with success of the Alzheimer's treatment Aricept and the anti-ulcer drug Aciphex overseas and in Japan. The company has advocated an independent stance during periods of industry restructuring. Eisai has gone against the trend toward outsourcing production, raising efficiency by installing state of the art production lines.

Statement of Risk

We value Eisai based on a DCF model and STOP methodology because it incorporates a long-term (10-year) forecast and thus better reflects pipeline contributions and the impact of patent expirations. Our price target is derived by sum of theoretical value by DCF and risk-adjusted NPV for Alzheimer's disease asset. Risks include: 1) Failure to develop its Alzheimer's dementia asset. Eisai and Biogen have four pipeline assets in their portfolio; however, all of them could possibly fail. In addition, if a competitor solanezumab's (Lilly) Phase III trial is unsuccessful, amyloid hypothesis would be likely rejected and expectation would become lower. 2) Risk of not elevating expectations for Alzheimer's dementia drugs within 12 months. Our price target is on a 12-month basis; however, expectations may not be increased, as drug development requires more time. 3) Other pipeline development failure. Eisai has some late-stage development products, such as MORAb-003, -004 and -009, and probability of success is not 100%. In addition, if the company fails to develop in-licensed products, there would be risk to recognize impairment losses; ¥20.8bn of the Morphotek-related technology asset that Eisai acquired is recorded as of March 2015. 4) Price cut frequency, rate cuts and unexpected price cuts. The industry avoided an April 2017 price cut; however, the risk of an October 2019 price cut and an annual price cut persists. In addition, criticism from the Ministry of Finance, payors and physicians about expensive drugs continues. Even if it launches an AD drug, there could be a risk in setting its price. 5) Product recall due to adverse events. Regulators have become aggressive in accelerating drugs for severe diseases and products can be approved without extensive patient experience in clinical trials. A pharmaceutical product has the risk of an unexpected adverse event due to its nature, with risks of recall and economic loss. 6) Intellectual property risk. The pharmaceutical business is an intellectual property business in essence. There is risk of invalid patents and infringing on other parties' patents unexpectedly. 7) International sales risks; 45% of Eisai's revenue comes from international markets and is exposed to FX fluctuation.

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Highlights (¥bn)	03/14	03/15	03/16	03/17E	03/18E	03/19E	03/20E	03/21E
Revenues	599	548	547	556	597	626	661	705
Operating profit	66.4	28.3	51.9	65.8	78.9	97.3	124.7	166.3
Pre-tax profit	62.3	25.9	50.5	63.7	76.1	94.5	121.9	163.5
Net profit (reported)	38.3	43.3	54.9	43.1	48.1	60.7	79.3	107.6
EPS (reported, ¥)	134.1	151.6	192.2	150.6	168.3	212.2	277.2	376.2
Profitability/valuation	03/14	03/15	03/16	03/17E	03/18E	03/19E	03/20E	03/21E
EBIT margin %	11.1	5.2	9.5	11.8	13.2	15.5	18.8	23.6
ROIC (EBIT) %	10.8	4.6	8.6	11.9	14.7	18.2	23.5	31.4
EV/EBITDA x	10.1	18.2	24.1	20.6	18.1	15.5	12.8	10.1
PE (reported) x	30.2	31.5	40.4	46.9	42.0	33.3	25.5	18.8
Net dividend yield %	3.7	3.1	1.9	2.1	2.1	2.1	2.1	2.1

Source: Company accounts, Thomson Reuters, UBS estimates. Metrics marked as (UBS) have had analyst adjustments applied.

Valuations: based on an average share price that year, (E): based on a share price of ¥7,067 on 22 Nov 2016 22:44 JST

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UBS 12-Month Rating	Rating Category	Coverage ¹	IB Services ²
Buy	Buy	45%	36%
Neutral	Hold/Neutral	45%	36%
Sell	Sell	11%	19%

1:Percentage of companies under coverage globally within the 12-month rating category.

2:Percentage of companies within the 12-month rating category for which investment banking (IB) services were provided within the past 12 months.

Source: UBS. Rating allocations are as of 31 March 2013.

UBS 12-Month Rating	Definition
Buy	FSR is > 6% above the MRA.
Neutral	FSR is between -6% and 6% of the MRA.
Sell	FSR is > 6% below the MRA.

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Global Equity 12-Month Rating Definitions

Buy: FSR is > 6% above the MRA. **Neutral:** FSR is between -6% and 6% of the MRA. **Sell:** FSR is > 6% below the MRA.

Key Definitions

Forecast Stock Return (FSR) is defined as expected percentage price appreciation plus gross dividend yield over the next 12 months.

Market Return Assumption (MRA) is defined as the one-year local market interest rate plus 5% (a proxy for, and not a forecast of, the equity risk premium).

Under Review (UR) Stocks may be flagged as UR by the analyst, indicating that the stock's price target and/or rating are subject to possible change in the near term, usually in response to an event that may affect the investment case or valuation.

Exceptions and Special Cases

Core Banding Exceptions (CBE): Exceptions to the standard +/-6% bands may be granted by the Investment Review Committee (IRC). Factors considered by the IRC include the stock's volatility and the credit spread of the respective company's debt. As a result, stocks deemed to be very high or low risk may be subject to higher or lower bands as they relate to the rating. When such exceptions apply, they will be identified the Companies Mentioned or Company Disclosure table in the relevant research piece.

Company Disclosures

Company Name	Reuters	12-mo rating	Price	Price date
Eisai	4523 JP	Buy	¥7,067	22 Nov 2016

Source: UBS. All prices as of local market close.

Ratings in this table are the most current published ratings prior to this report. They may be more recent than the stock pricing date

Disclosures (23 November 2016)

Global rating history -- Eisai, 4523 JP



Source: UBS CIO as of 23 November 2016

Terms and Abbreviations

Term / Abbreviation	Description / Definition	Term / Abbreviation	Description / Definition
1H, 2H, etc. or 1H11, 2H11, etc.	First half, second half, etc. or first half 2011, second half 2011, etc.	1Q, 2Q, etc. or 1Q11, 2Q11, etc.	First quarter, second quarter, etc. or first quarter 2011, second quarter 2011, etc.
2011E, 2012E, etc.	2011 estimate, 2012 estimate, etc.	A	actual i.e. 2010A
ADR	American depositary receipt	ARPU	Average Revenue Per User
AUM	Assets under management = total value of own and third-party assets managed	Avg.	average
bn	Billion	bp or bps	Basis point or basis points (100 bps = 1 percentage point)
BVPS	Book value per share = shareholders' equity divided by the number of shares	CAGR	Compound annual growth rate
Cant Inc/Capita	Cantonal income per capita (Switzerland only)	Capex	Capital expenditures
CF	Cash flow	CFO	1) Cash flow from operations, 2) Chief financial officer
COGS	Cost of goods sold	COM	Common shares
Cons.	Consensus	Core Tier 1 Ratio	Tier 1 capital minus tier 1 hybrid securities
Cost/Inc Ratio (%)	Costs as a percentage of income	CPI	Consumer price index
CR	Combined ratio = ratio of claims and expenses as a percentage of premiums (for insurance companies)	CY	Calendar year
DCF	Discounted cash flow	DDM	Dividend discount model
Dividend Yield (%)	Dividend per share divided by price per share expected i.e. 2011E	DPS	Dividend per share
E	expected i.e. 2011E	EBIT	Earnings before interest and taxes
EBIT Margin (%)	EBIT divided by revenues	EBITDA	Earnings before interest, taxes, depreciation and amortization
EBITDA Margin (%)	EBITDA divided by revenues	EBITDA/Net Interest	EBITDA divided by net interest expense
EBITDAR	Earnings before interest, taxes, depreciation, amortization and rental expense	EFVR	Estimated fair value range
EmV	Embedded value = net asset value + present value of forecasted future profits (for life insurers)	EPS	Earnings per share
Equity Ratio (%)	Shareholders' equity divided by total assets	EV	Enterprise value = market value of equity, preferred equity, outstanding net debt and minorities
FCF	Free cash flow = cash a company generates above outlays required to maintain/expand its asset base	FCF Yield (%)	Free cash flow divided by market capitalization
FFO	Funds from operations	FY	Fiscal year / financial year
GDP	Gross domestic product	Gross Margin (%)	Gross profit divided by revenues
H	half year	h/h	Half-year over half-year; half on half
hist av.	Historical average	Interbank Ratio	Interbank deposits due from banks divided by interbank deposits due to banks
Interest Coverage	Ratio that expresses the number of times interest expenses are covered by earnings	Interest exp	Interest expense
ISIN	International securities identification number	K	One thousand
LLP/Net Int Inc (%)	Loan loss provisions divided by net interest income	LLR/Gross Loans (%)	Loan loss reserves divided by gross loans
LPR	Least Preferred: The stock is expected to both underperform the relevant benchmark and depreciate in absolute terms.	Market cap	Number of all shares of a company (at the end of the quarter) times closing price
m/m	Month-over-month; month on month	mn or m	Million
M and A	Merger and Acquisition	MP	Marketperform: The stocks expected performance is in line with the sector benchmark
MPR	Most Preferred: The stock is expected to both outperform the relevant benchmark and appreciate in absolute terms.	n.a.	Not available or not applicable
NAV	Net asset value	Net Debt	Short- and long-term interest-bearing debt minus cash and cash equivalents
Net DPS	Net dividends per share	NIM or Net Int Margin (%)	Net interest income divided by average interest-bearing assets
Net Margin (%)	Net income dividend by revenues	NV	Neutral View: The stock is expected to neither outperform nor underperform the relevant benchmark nor significantly appreciate or depreciate in absolute terms.
n.m. or NM	Not meaningful	NPL	Non-performing loans
OP	Outperform: The stocks is expected to outperform the sector benchmark	Op Margin (%)	Operating income divided by revenues
p.a.	Per annum (per year)	P/BV	Price to book value
P/E or PE	Price to earnings / Price Earnings Ratio	P/E Relative	P/E relative to the market
P/EmV	Price to embedded value	PEG Ratio	P/E ratio divided by earnings growth

Eisai

Term / Abbreviation	Description / Definition	Term / Abbreviation	Description / Definition
PPI	Producer price index	Prim Bal/Cur Rev (%)	Primary balance divided by current revenue (total revenue minus capital revenue)
Profit Margin (%)	Net income divided by revenues	q/q or QQQ	Quarter-over-quarter; quarter on quarter
R and D	Research and development	ROA (%)	Return on assets
ROAE (%)	Return on average equity	ROCE (%)	Return on capital employed = EBIT divided by difference between total assets & current liabilities
ROE (%)	Return on equity	ROIC (%) or ROI	Return on invested capital
Shares o/s	Shares outstanding	Solvency Ratio (%)	Ratio of shareholders' equity to net premiums written (for insurance companies)
sotp or SOTP	Sum of the parts	Tax Burden Index	Swiss tax index; 100 = average tax burden of all cantons
tgt	Target	Tier 1 Ratio (%)	Tier 1 capital divided by risk-weighted assets; describes a bank's capital adequacy
tn	Trillion	UP	Underperform: The stock is expected to underperform the sector benchmark
Valor	Swiss company identifier	WACC	Weighted average cost of capital
CIO	UBS WM Chief Investment Office	x	multiple / multiplier
y/y or YOY	Year-over-year; year on year	yr	Year
YTD	Year-to-date		

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