

# SECTOR

## Biotechnology

### Analysis and Synthesis - World



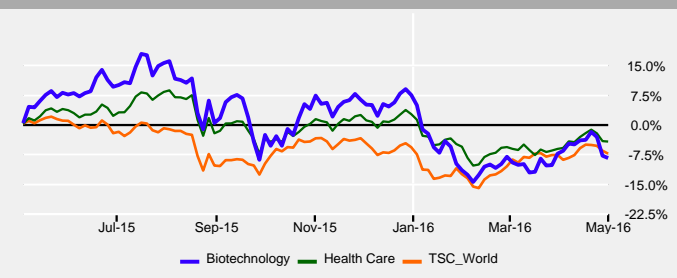
May 3, **2016**



# Biotechnology (WO)

Closing price of May 3, 2016

Comparison [May 5, 2015 - May 3, 2016]



The sector Biotechnology represents approximately 15% of the market capitalization of the group Health Care and approximately 1% of the World market with 127 companies being regularly followed by the Screener.

The sector Biotechnology is currently trading 22% below its 52 week high and 7% above its 52 week low (bi-weekly closing).

Performance since May 5, 2015: -8.8% vs. -4.5% for the group Health Care and -7.6% for the TSC\_World.

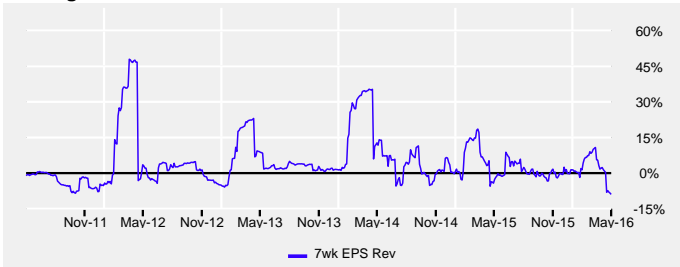
The current % of stocks over their Medium Term technical trend (MTT) is 30.7%.

	Market Value	Perf YtD	Nb of Stocks	Mkt Cap in \$bn	Stars	Risk Zone	G/PE Ratio	LT P/E	LT Growth	4wk Perf	% of Stocks in Uptrend
<b>Biotechnology (WO)</b>	556.66	-14.9%	127	776.82	★★★★☆		1.15	13.8	14.9%	-3.7%	30.7%
Health Care (WO)	181.82	-6.7%	459	5,114.98	★★★★☆		1.07	13.9	12.9%	0.0%	39.9%
TSC_World (WO)	228.71	-1.7%	6,134	54,536.13	★★★★☆		1.16	15.0	14.4%	1.7%	43.8%

### Price evaluation rating

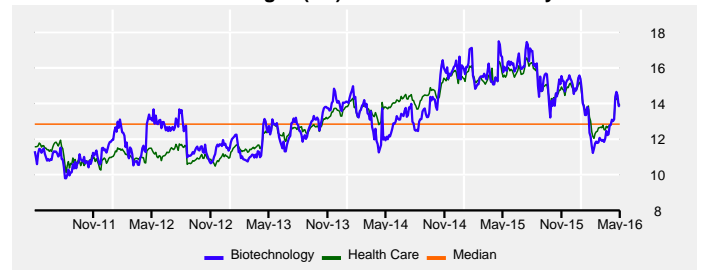
In order to assess whether an index is correctly valued, we focus on Peter Lynch's broadly accepted methodology of comparing the projected earnings growth and dividend with the estimated PE ratio. Based on this approach, we feel this sector is currently strongly undervalued. A "Forecasted Growth + Estimated Dividend Yield/ Estimated Price Earnings" ratio higher than 0.9 indicates that the index's price includes a discount to growth of -21.9%.

### Earnings revision trend



Compared to seven weeks ago, the analysts have lowered (-9.3%) their earnings estimates. This negative pressure began April 19, 2016 at a price of 584.7.

### "Price to Estimated Earnings" (PE) - Evolution over five years

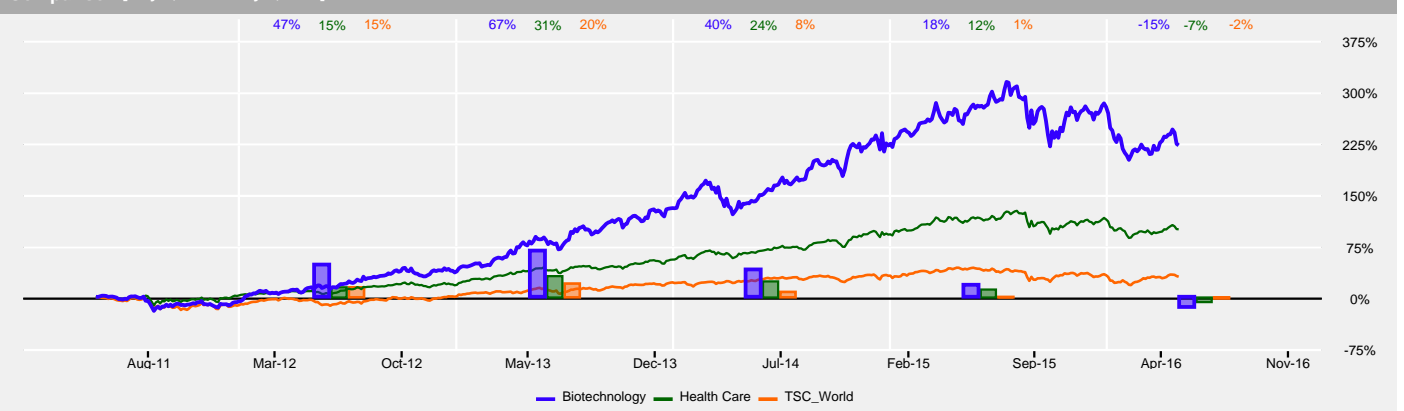


The estimated PE is calculated on the basis of the underlying stocks. While the PE of the sector Biotechnology is 13.8, the PE of its group (Health Care) is at the same level (13.9). Historically speaking, this sector is currently trading above its median of 12.8.

### Technical trend

The index is currently at a level close to its 40-day moving average. Prior to this (since April 1, 2016), the index traded above its 40-day moving average. The confirmed Technical Reverse point (Tech Reverse - 1.75%) is currently 0% lower. Close to its average, the sector indicates a phase of indecision regarding its trend. On the other hand, with 30.7% of stocks trending positive, it would appear there is a certain weakness in the market that isn't being confirmed by the sector.

Comparison [May 4, 2011 - May 3, 2016]



### Performance over 5 years

On a 5 year moving average, the performance of the sector Biotechnology is 221.1%, vs. 99.6% for the group Health Care and 30.0% for the TSC\_World. During this period, the high of 717.3 was reached on July 2015 and the low of 137.5 in the month of August 2011.

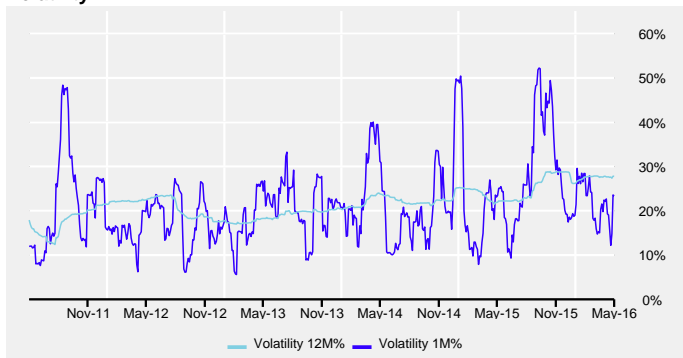


# Biotechnology (WO)

Closing price of May 3, 2016

	Market Value	Perf YtD	Nb of Stocks	Mkt Cap in \$bn	Stars	Risk Zone	G/PE Ratio	LT P/E	LT Growth	4wk Perf	% of Stocks in Uptrend
Biotechnology (WO)	556.66	-14.9%	127	776.82	★★★★		1.15	13.8	14.9%	-3.7%	30.7%

## Volatility



The volatility is also used as a risk factor. It measures the magnitude of the high and low movements of a stock or index. The more the volatility is high, the more risky a sector is considered to be.

As of the last update, the monthly volatility of (23.2%) is higher than the last few years' average of (21.1%). The high magnitude of short term price fluctuations indicates the market is very nervous.

On the other hand, long term volatility 27.6% of the sector is clearly higher than that of the group Health Care (16.7%), reflecting much higher price variations at the sector level than at the level of the group to which it belongs.

### The risk factor in declining markets

The "Bear Market Factor" measures the behavior of the sector Biotechnology in declining markets. In this context, the sector Biotechnology has a tendency to amplify the drops of the index TSC\_World.

This behavior indicates a true element of risk during market declines. The sector Biotechnology has a tendency to amplify the drops in the index by 0.45%.

### The risk factor in rising markets

The "Bad News Factor" measures a sector's corrections in a rising market phase.

In this configuration, the market normally sanctions the sector Biotechnology when there is specific pressure in this particular economic activity.

When the sector declines in a rising market its average deviation is -2.02%.

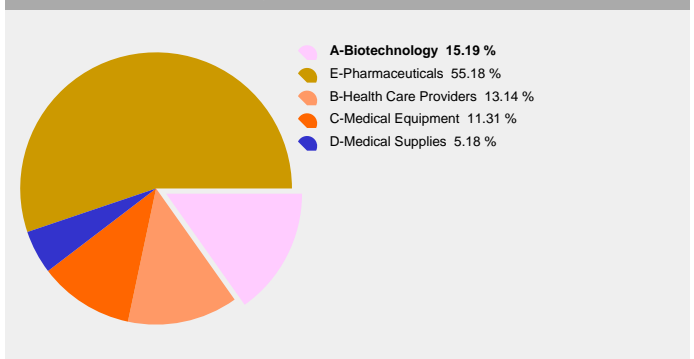
### Risk analysis summary

Generally speaking, an investment in the Biotechnology sector carries a high risk because of the Bear Market factor that strongly amplifies the risk.

## Checklist (Biotechnology)

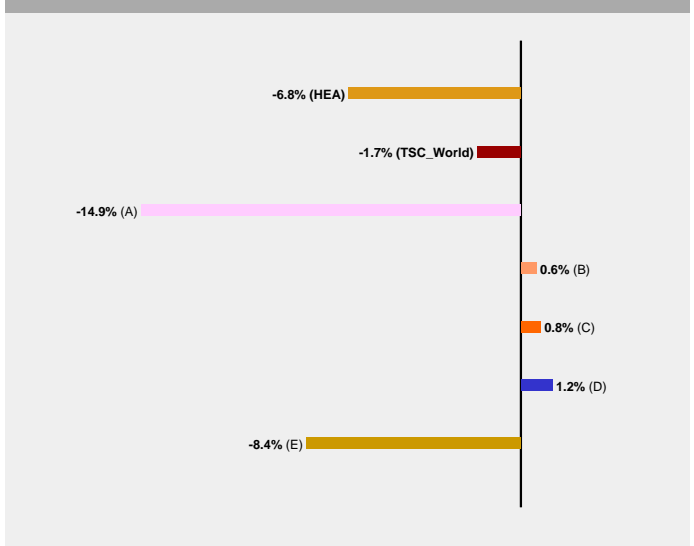
Stars	★★★★	Weak interest since April 29, 2016.
Valuation Rating	★	Strongly undervalued
Earnings Rev Trend	★	Analysts negative since April 19, 2016
MT Tech Trend	★	Market neutral but previously positive (since April 1, 2016)
4wk Rel Perf	-3.7%	★ Under pressure (vs. TSC_World)
Risk Zone		The industry is classified in the high-risk zone since August 7, 2015.

## Allocation by sector, of the group Health Care



The largest sector in terms of market capitalization Pharmaceuticals represents 55.2% of the group Health Care. These sectors follow, in size order, Biotechnology with 15.2% Health Care Providers with 13.1%.

## 2016 sector evolution



From the beginning of the year, the sector Biotechnology recorded a variation of -14.9%, while the group Health Care evolved by -6.7%. This industry group is made up of 5 sectors, in which the extreme variations were from -14.9% to 1.2%.

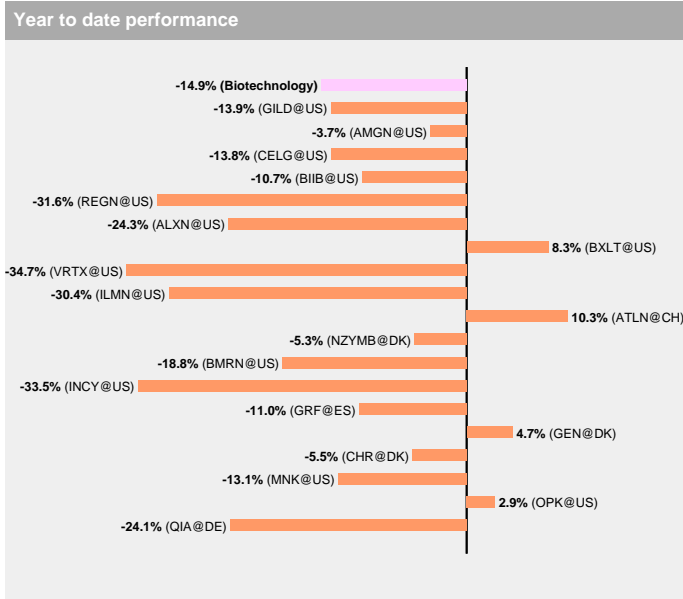


# Biotechnology (WO)

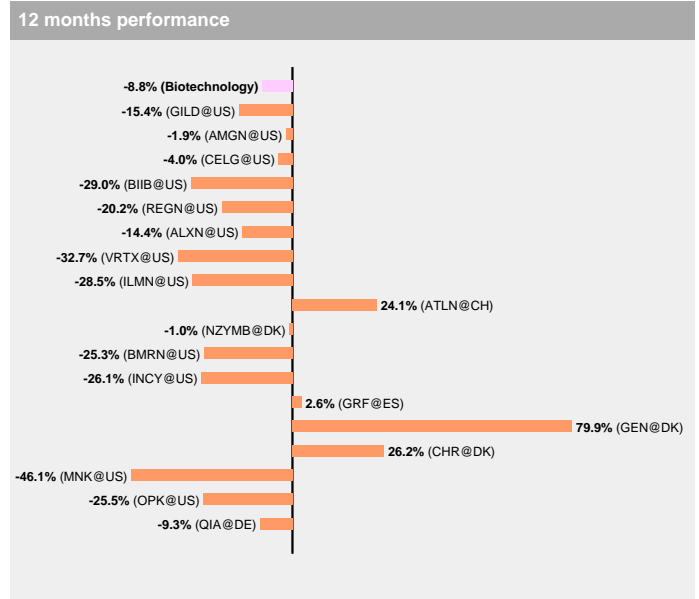
Closing price of May 3, 2016

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Biotechnology (WO)	556.66	-14.9%	127	776.82	★★★★		1.15	13.8	14.9%	-3.7%	30.7%

The performance of the 20 largest stocks of the sector is presented below.

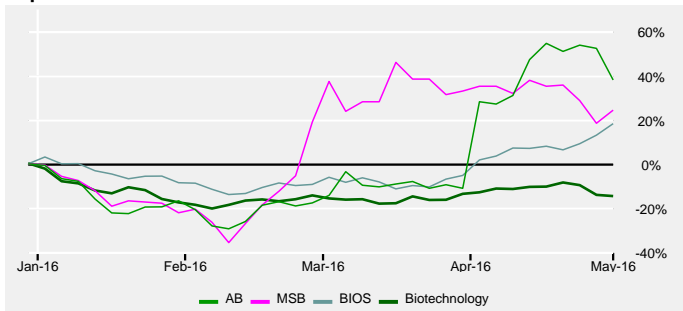


The analysis and details of the above stock can be found on page 6



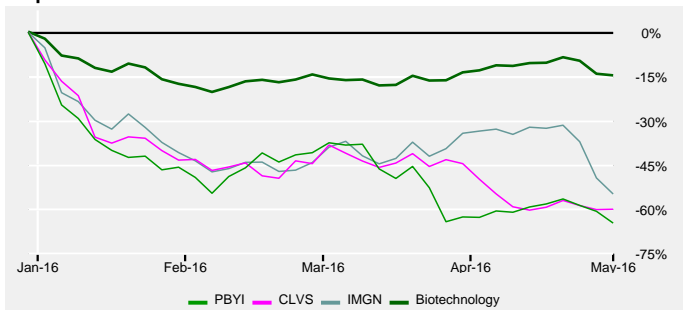
The analysis and details of the above stock can be found on page 6

### Top Stocks 2016



From the beginning of the year, the performance of the sector was -14.9%; as for the three best stocks, (AB SCIENCE (AB), MESOBLAST LTD. (MSB) and BIOCON LTD. (BIOS)), their performance was 38.0%, 24.3% and 18.2% respectively.

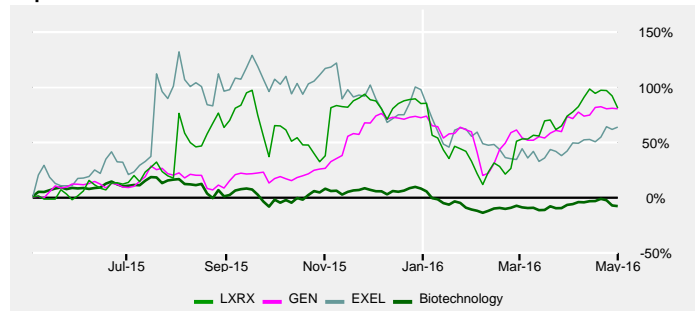
### Flop Stocks 2016



PUMA BIOTECHNOLOGY INCO. (PBVI), CLOVIS ONCOLOGY INCO. (CLVS) and IMMUNOGEN INCO. (IMGN) with -64.9%, -60.1% and -55.0% recorded the three worst performances from the beginning of the year. For the sector Biotechnology, the variation was -14.9%.

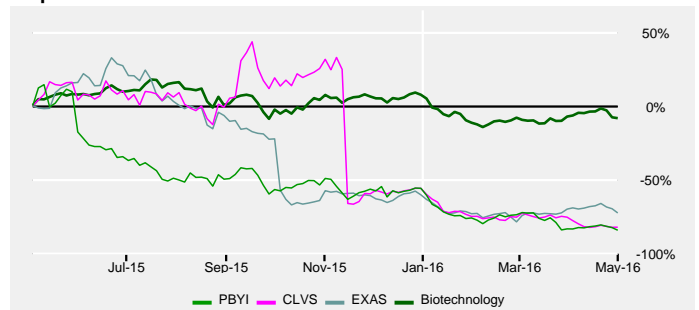
Only companies with a market capitalization exceeding \$500 million are mentioned.

### Top Stocks 12 months



Since 12 months ago, the performance of the sector has been -8.8%; the three best stocks, (LEXICON PHARMS.INCO. (LXR), GENMAB A/S (GEN) and EXELIXIS INCO. (EXEL)) recorded a performances of 80.5%, 79.9% and 63.3% respectively.

### Flop Stocks 12 months

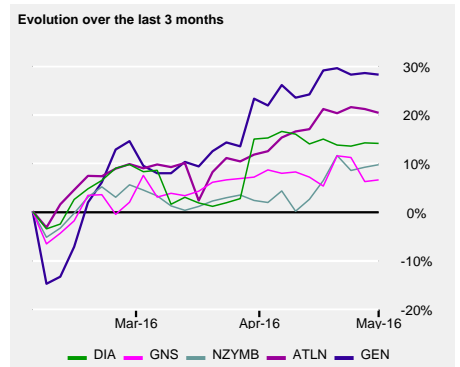


The three worst performances in 12 months were recorded by PUMA BIOTECHNOLOGY INCO. (PBVI), CLOVIS ONCOLOGY INCO. (CLVS) and EXACT SCIS.CORP. (EXAS) with -84.6%, -82.5% and -72.8%. As for the sector Biotechnology, it recorded a variation of -8.8%.

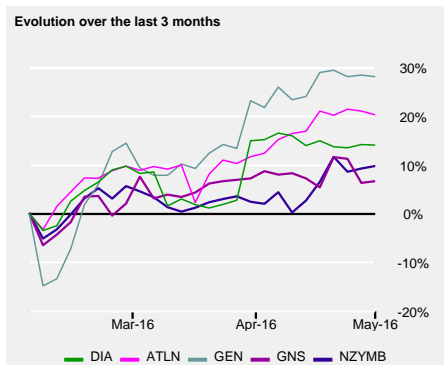


## Stocks with the best valuations

Symbol Market	Name Sector	Price Ccy	Mkt Cap in \$bn	7wk EPS Rev	Stars	Risk Zone	Global Evaluation
DIA IT	DIASORIN Biotechnology	50.95 EUR	3.28	4.6%	★★★★	🟡	🟢
GNS GB	GENUS PLC. Biotechnology	1,505.00 GBP	1.34	0.0%	★★★★	🟡	🟢
NZYMB DK	NOVOZYMES A/S Biotechnology	313.00 DKK	15.02	-9.2%	★★★★	🟡	🟢
ATLN CH	ACTELION LTD. Biotechnology	154.00 CHF	18.44	-11.4%	★★★★	🟡	🟢
GEN DK	GENMAB A/S Biotechnology	960.50 DKK	8.87	-12.6%	★★★★	🟡	🟢



The global rating (Global Evaluation) is a multi-criteria approach that identifies the stocks with the best evaluations. This assessment is the compilation of fundamental (PE, growth, earnings revisions, dividend, etc.), technical (moving average, relative performance), and risk (behavior in declining markets and sensitivity to bad news) factors. In order to present the best selection, only companies with a market capitalization greater than \$1bn and showing good earnings growth valuations, are listed. Furthermore, the eligible stocks must have a minimum rating of two stars; a neutral to positive valuation; a weak to average risk zone; and a minimum correlation of 0.66. When the global rankings are identical, the analysts' 7 week earnings per share revision (7 wk EPS rev) acts as the deciding classification element.



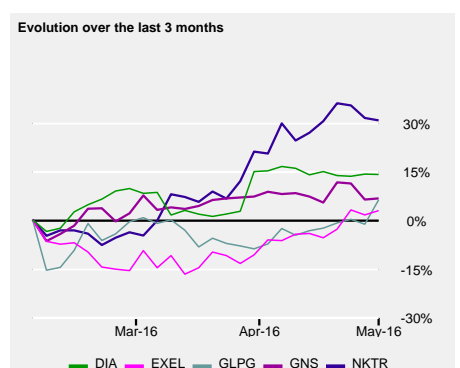
## The best defensive stocks

Symbol Market	Name Sector	Price Ccy	Mkt Cap in \$bn	Bear Mkt Factor	Stars	Risk Zone	Global Evaluation
DIA IT	DIASORIN Biotechnology	50.95 EUR	3.28	-145	★★★★	🟡	🟢
ATLN CH	ACTELION LTD. Biotechnology	154.00 CHF	18.44	-115	★★★★	🟡	🟢
GEN DK	GENMAB A/S Biotechnology	960.50 DKK	8.87	-80	★★★★	🟡	🟢
GNS GB	GENUS PLC. Biotechnology	1,505.00 GBP	1.34	-78	★★★★	🟡	🟢
NZYMB DK	NOVOZYMES A/S Biotechnology	313.00 DKK	15.02	-55	★★★★	🟡	🟢

The risk evaluation is based on essentially two criteria: the stock's "behavior in declining markets" (Bear Market Factor), and the stock's "sensitivity to bad news" (Bad News Factor). By positioning a stock according to the world averages, three risk levels can be attributed (weak, average, high). Combining these elements makes it possible to create a final ranking of the best defensive stocks in the market. To present the best selection, only companies with a market capitalization greater than \$1bn and showing good earnings growth valuations are listed. Furthermore, the eligible stocks must have a minimum rating of two stars; a neutral to positive valuation; a weak to average risk zone. In case of a tie, the stock's "behavior in declining markets" will act as the deciding classification element.

## The stocks with the lowest correlations

Symbol Market	Name Sector	Price Ccy	Mkt Cap in \$bn	Correlation	Stars	Risk Zone	Global Evaluation
DIA IT	DIASORIN Biotechnology	50.95 EUR	3.28	0.35	★★★★	🟡	🟢
EXEL US	EXELIXIS INCO. Biotechnology	4.67 USD	1.07	0.36	★★★★	🟡	🟢
GLPG BE	GALAPAGOS Biotechnology	42.72 EUR	1.93	0.36	★★★★	🟡	🟢
GNS GB	GENUS PLC. Biotechnology	1,505.00 GBP	1.34	0.49	★★★★	🟡	🟢
NKTR US	NEKTAR THERAPEUTICS Biotechnology	15.59 USD	2.12	0.50	★★★★	🟡	🟢

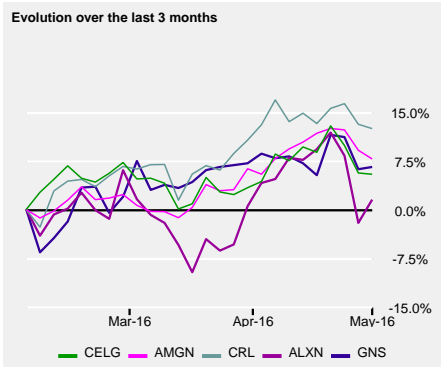


The correlation coefficient permits to identify the stocks of which the dependence on the market is the weakest. If this value is very low, less than 0.5, it signifies that less than 50% of the movements of the stock are explained by the movement of the market. On the contrary, a number close to 1 indicates that the value is very close to the evolutions of the market. In order to present the best selection, only the societies with a market capitalization higher than \$1bn and showing good earnings growth valuations are listed. Furthermore, the eligible stocks must have a minimum rating of two stars; a neutral to positive valuation; a weak to average risk zone; and a minimum correlation of 0.66. In the case of a tie in the ranking, the stock's "behavior in declining markets" (Bear Market Factor) acts as the deciding classification element.



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## The stocks with the weakest PE

Symbol Market	Name Sector	Price Ccy	Mkt Cap in \$bn	LT P/E	Stars	Risk Zone	Global Evaluation
CELG US	CELGENE CORP. Biotechnology	103.22 USD	79.95	9.7	★★★★	Neutral	Orange
AMGN US	AMGEN INCO. Biotechnology	156.35 USD	117.45	12.1	★★★★	Neutral	Orange
CRL US	CHAS.RVR.LABS.INTL.INCO. Biotechnology	78.80 USD	3.71	14.4	★★★★	Neutral	Orange
ALXN US	ALEXION PHARMS.INCO. Biotechnology	144.37 USD	32.34	17.8	★★★★	Neutral	Orange
GNS GB	GENUS PLC. Biotechnology	1,505.00 GBp	1.34	22.2	★★★★	Neutral	Green

The price to earnings ratio (PE) helps to find undervalued stocks. It is commonly accepted that if the PE of a stock is lower than the PE of its reference market, the stock has upside price potential. In order to present the best selection, only companies with a market capitalization greater than \$1bn and showing good earnings growth valuations are listed. Furthermore, the eligible stocks must have: a minimum rating of two stars, a neutral to positive valuation, a risk zone weak to average. When the PE ratios are identical, the analysts' 7 week earnings per share revision (7 wk EPS rev) acts as the deciding classification element.

## The 20 top stocks classified by market capitalization

Symbol Market	Name Sector	Price Ccy	Perf YtD	Mkt Cap in \$bn	G/PE Ratio	LT P/E	LT Growth	4wk Rel Perf	Div	Volatility 1M	Stars	Risk Zone	Global Evaluation
GILD US	GILEAD SCIENCES INCO. Biotechnology	87.17 USD	-13.9%	118.08	0.79	7.2	3.4%	-6.9%	2.2%	53.7%	★★★★	Neutral	Orange
AMGN US	AMGEN INCO. Biotechnology	156.35 USD	-3.7%	117.45	1.06	12.1	10.1%	1.9%	2.7%	16.7%	★★★★	Neutral	Orange
CELG US	CELGENE CORP. Biotechnology	103.22 USD	-13.8%	79.95	1.71	9.7	16.5%	2.5%	0.0%	29.2%	★★★★	Neutral	Orange
BIIB US	BIOGEN INCO. Biotechnology	273.71 USD	-10.7%	59.96	0.85	12.6	10.7%	5.5%	0.0%	20.8%	★★★★	Weak	Red
REGN US	REGENERON PHARMS.INCO. Biotechnology	371.32 USD	-31.6%	39.02	1.08	18.8	20.3%	-7.9%	0.0%	30.2%	★★★★	Neutral	Orange
ALXN US	ALEXION PHARMS.INCO. Biotechnology	144.37 USD	-24.3%	32.34	1.13	17.8	20.1%	1.5%	0.0%	45.8%	★★★★	Neutral	Orange
BXLT US	BAXALTA INCO. Biotechnology	42.28 USD	8.3%	28.80	0.87	15.3	12.6%	4.0%	0.7%	15.7%	★★★★	Weak	Green
VRTX US	VERTEX PHARMS.INCO. Biotechnology	82.16 USD	-34.7%	20.32	5.12	13.1	67.3%	4.3%	0.0%	26.5%	★★★★	Weak	Red
ILMN US	ILLUMINA INCO. Biotechnology	133.65 USD	-30.4%	19.66	0.78	28.1	21.9%	-19.5%	0.0%	92.0%	★★★★	Neutral	Orange
ATLN CH	ACTELION LTD. Biotechnology	154.00 CHF	10.3%	18.44	0.90	17.6	14.8%	7.0%	1.1%	15.4%	★★★★	Weak	Green
NZYMB DK	NOVOZYMES A/S Biotechnology	313.00 DKK	-5.3%	15.02	0.72	26.3	17.8%	6.5%	1.3%	31.2%	★★★★	Weak	Green
BMRN US	BIOMARIN PHARM.INCO. Biotechnology	85.09 USD	-18.8%	13.81	7.20	68.6	493.8%	1.0%	0.0%	44.2%	★★★★	Weak	Red
INCY US	INCYTE CORP. Biotechnology	72.09 USD	-33.5%	13.52	5.54	32.0	177.1%	-1.2%	0.0%	29.4%	★★★★	Weak	Red
GRF ES	GRIFOLS SA Biotechnology	18.98 EUR	-11.0%	13.44	1.01	14.7	12.8%	-3.8%	2.0%	19.0%	★★★★	Weak	Green
A068270 KR	CELLTRION INCORPORATED Biotechnology	99,600.00 KRW	17.9%	10.17	1.32	35.2	46.4%	-13.5%	0.0%	30.6%	★★★★	Weak	Green
GEN DK	GENMAB A/S Biotechnology	960.50 DKK	4.7%	8.87	2.36	36.3	85.9%	3.3%	0.0%	20.9%	★★★★	Weak	Green
CHR DK	CHR HANSEN HOLDING AS Biotechnology	407.80 DKK	-5.5%	8.32	0.81	28.6	21.6%	-8.3%	1.5%	15.3%	★★★★	Weak	Green
MNK US	MALLINCKRODT PLC. Biotechnology	64.84 USD	-13.1%	7.26	1.23	6.7	8.2%	1.3%	0.0%	50.1%	★★★★	Weak	Red
OPK US	OPKO HEALTH INCO. Biotechnology	10.34 USD	2.9%	5.64	9.57	11.9	113.6%	-0.2%	0.0%	30.3%	★★★★	Weak	Red
QIA DE	QIAGEN NV Biotechnology	19.20 EUR	-24.1%	5.30	0.70	17.1	11.9%	-4.5%	0.0%	31.2%	★★★★	Weak	Green



**Number of Stocks**

This is the number of stocks in the index that can be analyzed.

**Mkt Cap in \$bn**

This number represents the Market Capitalization in USD bn. It is calculated by multiplying a firm's share price by the number of outstanding shares. For reasons of comparison, all results are in USD.

**Valuation Rating**

Our Valuation Rating indicates if a stock is "expensive" or "cheap" relative to its growth potential. This is used to determine whether or not the investor is paying a premium for anticipated growth.

To estimate a stock's value relative to its current price, our Valuation Rating combines:

- stock price
- projected earnings
- projected earnings growth
- dividends

We establish our rating by combining these elements.

There are five ratings, ranging from strongly undervalued 🟢🟢 to strongly overvalued 🟡🔴.

**Stars**

theScreener.com's star rating system is designed to enable you to identify high-quality stocks quickly and easily.

In this easy-to-use rating system, stars are earned for each element specified below:

- Earnings Rev Trend 🟢 = ★★★★★
- Valuation Rating 🟢, 🟢🟢 = ★★★★★
- MT Tech Trend 🟢 = ★★★★★
- 4 week Relative Performance > 1% = ★★★★★

Therefore, a stock can earn a maximum of four stars.

The lowest rating a stock can have is no stars.

Once a stock has earned a star, it will keep it until:

- Earnings Rev Trend becomes negative 🟡
- Valuation Rating becomes negative 🟡, 🟡🔴
- MT Tech Trend becomes negative 🟡
- 4 week Relative Performance drops below -1% (<-1%)

**Div**

This is the dividend in % for the next 12 months.

Even if the same number is shown, the dividend value can appear in one of four colors, depending on the earnings coverage:

- 0%, no dividend
- 4%, the dividends are covered (between 0% and 40% of earnings)
- 4%, the dividends represent between 40% and 70% of earnings
- 4%, the dividends are higher than 70% of earnings, which implies that the dividend coverage is not guaranteed.

**Earnings Rev. Trend**

The symbol 🟢 shows that compared with their earnings revisions of seven weeks ago, the analysts have now raised their estimates (7wk EPS Rev; > 1%); the symbol 🟡 indicates that compared with their earnings revisions of seven weeks ago, the analysts have now lowered their estimates (7wk EPS Rev < -1%).

When the earnings revisions (7wk EPS Rev) fall between +1% and -1%, the trend is considered to be neutral 🟢.

The symbol 🟢 indicates that the last significant revisions have been trending positive.

The symbol 🟡 indicates that the last significant revisions have been negative.

**7wk EPS Rev**

This is an abbreviation for 7 week Earnings Per Share Revision. This column indicates the value of these revised earnings. A figure of 2.8 signifies that compared with seven weeks ago, the analysts have now revised and raised their estimates by 2.8%. On the contrary, a negative number means that the earnings would have been revised lower.

**G/PE Ratio**

In order to establish our Valuation Rating, we calculate the estimated growth of future earnings (LT Growth) plus dividend in %, divided by the estimated future PE ratio (Long Term P/E).

**LT PE**

This is the relationship between the price (P) and the estimated long-term future earnings (E LT).

**LT Growth**

This is the estimated annual growth rate of future earnings, normally projected over the next two to three years.

**MT Tech Trend**

The MT Tech Trend indicates the current trend, positive 🟢 or negative 🟡, and the Tech Reverse indicates up to which price this trend will remain valid.

When a price falls to 1.75% above or below the Tech Reverse, the MT Tech Trend is considered neutral 🟢.

Once the price breaks out of the +1.75% neutral zone, the MT Tech Trend will change to positive.

The symbol 🟢 indicates that the previous MT Tech Trend was positive.

The symbol 🟡 indicates that the previous MT Tech Trend was negative.

**4wk (Rel) Perf.**

This figure measures the performance of a stock relative to its national or regional index (compared to four weeks ago). As for an Index, it measures the net performance over 4 weeks.

**Bad News Factor**

To determine the "Bad News Factor" we analyze a stock's declines in rising markets. In this purely objective analysis, the actual reasons for a stock's behavior are not important. If a stock price falls while its relative index goes up, it can be assumed that the stock's performance has been affected by bad news - hence the name, "Bad News Factor".

Here a stock's movements are measured on a bi-weekly basis, during a sliding 52 week period. Every time a stock drops while its reference index rises, the difference is calculated in %, integrated into a yearly average and expressed in basis points.

The higher the "Bad News Factor," the more a stock has proven to be sensitive to bad news. The lower the "Bad News Factor," the less the stock has proven to be sensitive to bad news.

**Bear Market Factor**

To determine the "Bear Market Factor" we analyze a stock's price movements in declining markets.

This is the analysis of the movements, in a bi-weekly intervals, during a sliding 52 week period.

The higher the "Bear Market Factor," the greater the probability a stock would drop when its relative index drops.

A "Bear Market Factor" that is strongly negative means the stock has been more resistant to losses in declining markets.

**Risk Zone**

The price developments of stocks are generally volatile and contain high risks that can result in a total loss. Based on a their historical behavior, stocks are classified by risk levels. These risk levels have to be considered solely in relative historic comparison to other stocks. Please note that even "Low Risk" stocks are equities and therefore high risk investments that can lose up to all of their value, and that based on the past no firm conclusions can be taken into the future.

Risk zones are determined by measuring the "Bear Market Factor" and the "Bad News Factor" against a world reference.

There are three types of risk ratings:

- Low Risk: The risk indicators fall below the world reference average.
- Medium Risk: The risk indicators are situated higher than the world reference average, but lower than one standard deviation.
- High Risk: The risk indicators are at levels higher than one standard deviation.

**Volatility 12 M**

Volatility is also used as a risk factor. It measures the magnitude of the high and low movements of a stock or index. The higher the volatility, the more risky a stock is considered to be.

**% of Stocks in Uptrend**

This is the percentage of stocks in a given list that have a positive Medium Term Technical Trend. If, for example, the aggregate of Technology / World, (which is made up of 458 stocks) has 8% "of stocks in Uptrend," it means that 38 of the stocks within that aggregate have a positive Medium Term Technical Trend.

**Beta**

Beta is often used as a measure of risk. Where a Beta is greater than 100, the stock is more volatile than its reference index and therefore more risky.

**Correlation**

Correlation is the degree of similarity (in %) in which a stock fluctuates in relation to its reference index.

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