

Recommendation [as of November 16, 2023]:



GICS Sector: Health Care GICS Industry: Biotechnology Sector Ranking: underweight

SPGMI's Quality Ranking: B-

Business Summary: Catalyst Pharmaceuticals, Inc., a commercial-stage biopharmaceutical company, focuses on developing and commercializing therapies for people with rare debilitating, chronic neuromuscular, and neurological diseases in the United States. It offers Firdapse, an amifampridine phosphate tablets for the treatment



Quality			
Growth	Negativ	/e	
Financial Health		Neutr	al
Street	Negativ	/e	
Sentiment			
Sentiment Price Momentum		Neutr	al
Price	tion:	Neutr	al  MODERATE
Price Momentum		Neutr	
Price Momentum Risk Evaluat	Bize Risk	Neutr	MODERATE





Total Return[%CAGR]	YTD	1Yr	3Yr	5Yr
NasdaqCM:CPRX	-28.6	-11.4	60.8	36.1
Peer Average	20.8	16.5	-4.1	15.2
S&P 500	22.0	16.1	9.4	12.4

Quantitative Rankings: SB = Strong Buy, H = Hold, SS = Strong Sell Past performance is not an indication of future performance and should not be relied upon as such Source: CFRA, S&P Global Market Intelligence (SPGMI)

#### **Model Ranking Commentary**

Liquidity Risk

- NasdaqCM: CPRX's HOLD recommendation is based on its score from CFRA's quantitative model for the United States.
- Valuation and Growth model sub-categories are the largest positive and negative drivers, respectively, of the HOLD recommendation.
- Valuation includes factors such as price to earnings, price to EBITDA, and price to cash flow.

Moderate

- Growth includes factors that measure EPS growth and stability and cash flow growth and stability.
- NasdaqCM: CPRX's overall score ranked in the 35th percentile of all stocks in the model universe [1 = best and 100 = worst]

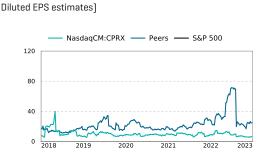
Key Statistics						
Market Cap (MIn of USD)	1,426					
52-Wk Range (USD)	11.09 - 22.11					
Value of - 10K Invested 5 Yrs ago	46,655					
Beta vs S&P 500	1.08					
Common Shares Outstanding(MIn)	106.61					
Average Daily Volume (Mln)	1.223					
Insider Ownership(%)	NA					

Dividend Data Currence			Currency: USD
		5Yr Low	5Yr Hi
Indicated Rate/ Share			
Yield [%]	Nil	-	
Payout Ratio [%]	NM	NM _	NM

Payment Details	
-No Dividend Data Available	

Compound Annual Growth Rates							
Revenue - %CAGR	1Yr	3Yr					
Company	81.7	43.4					
Peer Average	144.3	72.2	173.4				
S&P 500	6.7	9.6	6.7				
Operating EPS - %CAGR							
Company	-9.7	-5.3	-14.8				
Peer Average	-16.7	0.9	-0.6				
S&P 500	-4.9	22.0	7.8				

5 year P/E Ratio Comparisons [fo	orward 12-month [
Current	
NasdaqCM:CPRX	6.5
Peer Average	26.6
S&P 500	19.5
5-Year Average	
NasdaqCM:CPRX	10
Peer Average	31.3
S&P 500	19.6

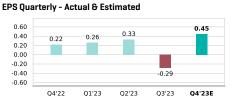


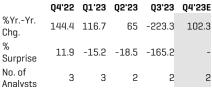


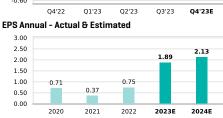


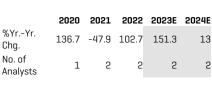
#### EPS Per Share and Revenues [Millions USD, except per share]

Fiscal year ends Dec 31

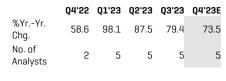


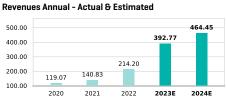














## **Key Profitability Ratios**

	2018	2019	2020	2021	2022	LTM
% Operating Margin	-7059.0	31.1	34.7	37.2	47.5	21.8
Peer Average	-672.6	-28692.3	-250.3	-168.5	-138.8	-58.3
% Net Margin	-6800.7	31.2	63.0	28.0	38.8	17.8
Peer Average	-656.4	-27550.3	-259.8	-178.4	-143.9	-65.2
% Return on Capital	-33.5	28.5	20.0	17.2	24.7	15.2
Peer Average	746.8	-9.1	-20.2	-21.2	-28.3	-24.5
% Cach						

**Key Valuation Ratios** 

Source: S&P Global Market Intelligence

Note: EPS & Revenues in graphs above may represent analyst-adjusted actuals and estimates and therefore may not match numbers in the financial data presentation below.

Income Statement, Cash Flow and	come Statement, Cash Flow and Balance Sheet Data [Millions USD, except per share] Fiscal Year Ending: Dec. 31.							
	2015	2016	2017	2018	2019	2020	2021	2022
Revenue	NA	NA	NA	1	102	119	141	214
Operating Income	-20.4	-18.7	-18.7	-35.3	31.8	41.3	52.4	101.8
Net Income	-20.2	-18.1	-18.4	-34.0	31.9	75.0	39.5	83.1
Operating Cash Flow	-18.0	-18.0	-13.7	-26.1	34.6	45.0	60.4	116.0
Capital Expenditures	0.023	0.096	NA	0.092	0.019	0.011	1.021	0.029
Earnings Per Share	-0.25	-0.22	-0.21	-0.33	0.30	0.71	0.37	0.75
Dividends Per Share	NA	NA	NA	NA	NA	NA	NA	NA
Dividend Payout Ratio	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Free Cash Flow Per Share	-0.22	-0.22	NA	-0.26	0.33	0.42	0.55	0.95
Cash and Short Term Investments	58.4	40.4	84.0	53.5	94.5	140.3	191.3	298.4
Long Term Debt	NA	NA	NA	NA	NA	NA	NA	NA
Total Debt	Nil	Nil	Nil	Nil	0.95	0.03	4.20	3.89
Common Equity	55.5	39.3	81.0	50.8	87.6	169.6	206.8	300.4

Note: Data may be restated; before results of discontinued operations/special items. Per share data adjusted for stock dividends as of ex-dividend date.

NA = Not Available. NM = Not Meaningful.

Source: S&P Global Market Intelligence (SPGMI)



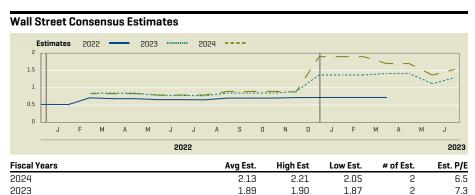
Recommendation [as of November 16, 2023]: HOLD



Peer Group Cor	nparison											
Peer Group	Stock Symbol	Stk.Mkt.Cap (MIn USD)	Beta	Recent Stock Price[USD]	52 Week Low/High[USD]	Dividend Yield[%]	Fwrd P/E	P/B Ratio	Ranking <sup>1</sup>	Return On Revenue[%]	Return On Equity[%]	LTD to Cap[%]
Catalyst Pharmaceuticals, Inc.	NasdaqCM:CPRX	1,426.46	1.08	13.81	11.5/21.05	Nil	7.3	4.2	Hold	17.8	20.1	0.9
ACADIA Pharmaceuticals Inc.	NasdaqGS:ACAD	3,623.46	0.62	22.84	14.49/33.47	Nil	NM	10.3	Hold	-23.5	-37.8	11.5
Axsome Therapeutics, Inc.	NasdaqGM:AXSM	2,825.45	2.01	59.88	56.22/90.35	Nil	NM	10.5	Strong Sell	-90.3	-94.6	40.7
BioCryst Pharmaceuticals, Inc.	NasdaqGS:BCRX	1,052.72	1.92	5.35	4.98/13.36	Nil	NM	NM	Hold	-74.4	72.3	194.1
Corcept Therapeutics Incorporated	NasdaqCM:CORT	2,588.37	0.43	25.91	19.2/33.8	Nil	28.2	5.8	Buy	20.3	19.4	-
Denali Therapeutics Inc.	NasdaqGS:DNLI	2,505.51	1.18	18.76	16.2/32.96	Nil	NM	2.3	Hold	-36.5	-12.9	4.0
Harmony Biosciences Holdings, Inc.	NasdaqGM:HRMY	1,513.50	0.55	26.97	19.2/60.91	Nil	9.1	3.3	Buy	27.8	36.5	26.9
ImmunoGen, Inc.	NasdaqGS:IMGN	4,151.06	0.83	16.11	3.67/20.05	Nil	NM	7.6	Buy	-25.6	-19.9	12.4
Insmed Incorporated	NasdaqGS:INSM	3,496.44	1.4	24.82	16.26/26.93	Nil	NM	NM	Hold	NM	NM	126.4
Intra-Cellular Therapies, Inc.	NasdaqGS:ITCI	5,295.02	1.04	57.19	43.8/66.44	Nil	NM	9.2	Hold	-36.9	-24.1	2.2
Ultragenyx Pharmaceutical Inc.	NasdaqGS:RARE	3,198.03	0.72	39.97	31.73/52.15	Nil	NM	91.0	Sell	NM	NM	44.1

<sup>1</sup> Quantitative Rankings: Strong Buy, Buy, Hold, Sell, Strong Sell; Qualitative Rankings(STARS): 5 = Strong Buy, 4 = Buy, 3 = Hold, 2 = Sell, 1 = Strong Sell Rankings are not predictive of future performance. For full definitions of Rankings, see the glossary section of this report.

Note: Peer Group selection is performed using CFRA's proprietary peer ranking system. Peers are selected based on factors such as similarity of analyst coverage, industry, size, and region. The subject company is ranked against a universe of companies (the "Universe") which has been compiled by CFRA and consists of a list of companies with similar characteristics, but may not include all the companies within the same industry and/or that engage in the same line of business. The subject company and some of the companies in the Peer Group may be ranked by two different ranking systems. For the purpose of the overall ranking/recommendation, the subject company is ranked against all the companies in the Universe and not necessarily against the companies listed in the Peer Group.



Source: S&P Global Market Intelligence (SPGMI)

2024 vs. 2023

Forecasts are not reliable indicator of future performance.

Note: A company's earnings outlook plays a major part in any investment decision. S&P Global Market Intelligence organizes the earnings estimates of over 2,300 Wall Street analysts, and provides their consensus of earnings over the next two years, as well as how those earnings estimates have changed over time. Note that the information provided in relation to consensus estimates is not intended to predict actual results and should not be taken as a reliable indicator of future performance.

**▲**13%

**▲**16%

**▲**10%

0%

**▼**-11%



Recommendation [as of November 16, 2023]: HOLD



## **Business Summary**

Catalyst Pharmaceuticals, Inc., a commercial-stage biopharmaceutical company, focuses on developing and commercializing therapies for people with rare debilitating, chronic neuromuscular, and neurological diseases in the United States. It offers Firdapse, an amifampridine phosphate tablets for the treatment of patients with lambert-eaton myasthenic syndrome (LEMS); and Ruzurgi for the treatment of pediatric LEMS patients. The company develops Firdapse for the treatment of MuSK antibody positive myasthenia gravis and spinal muscular atrophy type. It has license agreements with BioMarin Pharmaceutical Inc.; and collaboration and license agreement with Endo Ventures Limited for the development and commercialization of generic Sabril tablets. Catalyst Pharmaceuticals, Inc. was founded in 2002 and is based in Coral Gables, Florida.

Key Develop	ments	
Nov-29-2023	Company Conference Presentations	Catalyst Pharmaceuticals, Inc. Presents at Piper Sandler 35th Annual Healthcare Conference, Nov-29-2023 10:30 AM
Nov-09-2023	Earnings Calls	Catalyst Pharmaceuticals, Inc., Q3 2023 Earnings Call, Nov 09, 2023
Nov-08-2023	Announcements of Earnings	Catalyst Pharmaceuticals, Inc. Reports Earnings Results for the Third Quarter and Nine Months Ended September 30, 2023
Nov-08-2023	Earnings Release Date	Catalyst Pharmaceuticals, Inc. to Report Q3, 2023 Results on Nov 08, 2023
Oct-19-2023	Executive Changes - CEO	Catalyst Pharmaceuticals, Inc. Announces Chief Executive Officer Changes
Oct-12-2023	Company Conference Presentations	Catalyst Pharmaceuticals, Inc. Presents at BioFlorida Conference 2023, Oct-12-2023 03:00 PM
Sep-26-2023	Company Conference Presentations	Catalyst Pharmaceuticals, Inc. Presents at Cantor Fitzgerald Annual Global Healthcare Conference 2023, Sep-26-2023 11:05 AM
Sep-11-2023	Company Conference Presentations	Catalyst Pharmaceuticals, Inc. Presents at IASLC 2023 World Conference on Lung Cancer, Sep-11-2023 06:00 PM
Aug-22-2023	Annual General Meeting	Catalyst Pharmaceuticals, Inc., Annual General Meeting, Aug 22, 2023
Aug-10-2023	Earnings Calls	Catalyst Pharmaceuticals, Inc., Q2 2023 Earnings Call, Aug 10, 2023
Aug-09-2023	Announcements of Earnings	Catalyst Pharmaceuticals, Inc. Reports Earnings Results for the Second Quarter and Six Months Ended June 30, 2023
Aug-09-2023	Earnings Release Date	Catalyst Pharmaceuticals, Inc. to Report Q2, 2023 Results on Aug 09, 2023
Jul-25-2023	Executive Changes - CEO	Catalyst Pharmaceuticals, Inc. Announces Resignation of Patrick J. Mcenany as Chief Executive Officer
Jun-23-2023	Index Constituent Drops	Catalyst Pharmaceuticals, Inc.[NasdaqCM:CPRX] dropped from Russell 3000E Index
Jun-23-2023	Index Constituent Drops	Catalyst Pharmaceuticals, Inc.[NasdaqCM:CPRX] dropped from Russell Microcap Index
Jun-23-2023	Index Constituent Drops	Catalyst Pharmaceuticals, Inc.[NasdaqCM:CPRX] dropped from Russell 3000E Growth Index
Jun-23-2023	Index Constituent Drops	Catalyst Pharmaceuticals, Inc.[NasdaqCM:CPRX] dropped from Russell Microcap Growth Index

## **Corporate Information**

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**United States** 

#### Telephone

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#### Web Site

www.catalystpharma.com

## Key Officers

Corporate Secretary

P. B. Schwartz

Co-Founder, Chairman, President & CEO

P. J. McEnany

COO & Chief Scientific Officer

S. R. Miller

Chief Commercial Officer

J. Del Carmen

Chief Accounting Officer, VP. Treasurer & CFO

A. Grande

VP & Head of Investor Relations

M. Coleman

Chief Medical & Regulatory Officer

G. Ingenito

Chief Strategy Officer

P. Sundaram

Senior Vice President of Medical Affairs & Drug

Discovery

S. Iyadurai

Vice President of Sales

P. Curry

Chief Compliance Officer & Chief Legal Officer

B. Elsbernd

## **Board Members**

C. B. O'Keeffe, D. A. Denkhaus, D. S. Tierney, E. M. Laska,

J. D. Brodie, M. Harper, P. J. McEnany, R. B. Silverman, R.

D. Fechtner, R. Daly, T. Thompson

## State of Incorporation

Delaware

#### Employees

82



## Glossary

## Quantitative Model Overall Recommendation and drivers of the recommendation

CFRAs global quantitative stock reports provide a 5-tier recommendation assigning a Strong Buy, Buy, Hold, Sell, or Strong Sell recommendation based on a series of quantitative inputs from four separate regional models:

- United States
- Canada
- Developed Europe
- Developed Asia excluding Japan

Each of these regional models is based on between 25 and 40 different investment factors (financial ratios), selected from S&P Global Market Intelligence's Alpha Factor Library.

To provide its recommendation, CFRA ranks a universe of common stocks based on 5 measures or model categories: Valuation, Quality, Growth, Street Sentiment, and Price Momentum. In the U.S., a sixth sub-category for Financial Health will also be displayed.

Within these categories, factors are chosen based on their historical predictive strength (alpha) within the region and their correlation with other factors. Each regional model contains two separate sub-models; one that uses factors specific to financial companies and one that focuses on non-financial companies. Due to the large number of banks in the U.S., the U.S. model also has a third sub-model specifically for banks.

Each company within a region is grouped with a universe of stocks and receives a score on each of the five (or six in the U.S.) model categories. Percentile scores are used to compare each company to all other companies in the same universe for each model category. The five (six) model category scores are then weighted and rolled up into a single percentile ranking for that company. Rankings are then assigned investment labels, as follows:

Strong Buy: top 10% by model score

Buy: next 20% Hold: next 40% Sell: next 20%

Strong Sell: bottom 10%

#### **Risk Evaluation**

Risk Evaluation is a relative ranking, which represents an assessment of the risk of investing in a company's stock relative to the risk of investing in other companies' stocks in the same universe. To perform this assessment the following risk categories are evaluated:

Asset/Market Size Risk Financial Leverage Risk Price Volatility Risk Liquidity Risk

Each company's stock is percentile ranked from 1 to 100 against the other companies within the universe on each of the four risk categories mentioned above, with 1 being low risk and 100 being

high risk. The overall risk evaluation represents the combined scores on these Risk categories, calculated as an equal-weighted average of percentile ranks of the 4 risk categories. The highest 40% of companies in each universe receive a high risk ranking, the next 35% receive a moderate risk ranking and, the lowest 25% receive a low risk ranking.

All investments carry some sort of risk and a low risk ranking represents a relative ranking of CFRA's assessment of the risk of investing in a company's stock versus the risk of investing in other companies that are part of that company's universe. Therefore, a low risk ranking should not be interpreted as an absolute risk evaluation, but as a relative measurement of the risk of investing in a company's stock.

#### **Sector Ranking**

CFRA's Investment Policy Committee (IPC) consists of a team of five seasoned investment professionals. It meets weekly to discuss market trends and projections, maintain an S&P 500 12-month forward price target, and make asset allocation/sector recommendations. The IPC establishes over, market, and underweight recommendations on the 10 sectors within the S&P 500. Overweight and underweight recommendations imply that the group expects these sectors to outperform or underperform the S&P 500 during the coming six-to-12 month period, respectively. A "marketweight" recommendation indicates that the sector is expected to be a market performer during this same timeframe. The IPC analyses economic projections, fundamental forecasts, technical considerations, and historical precedent when making such recommendations. Changes in recommendations can be made more frequently than every six-12 months as market conditions evolve. Sector rankings will only be made available for sectors in the S&P 500. If a ranking is not available, the value will be N/A.

# Qualitative STARS Ranking system and definition: \* \* \* \* \* 5-STARS (Strong Buy):

Total return is expected to outperform the total return of a relevant benchmark, by a wide margin over the coming 12 months, with shares rising in price on an absolute basis.

## \* \* \* \* 4-STARS (Buy):

Total return is expected to outperform the total return of a relevant benchmark over the coming 12 months, with shares rising in price on an absolute basis.

## \* \* \* 3-STARS (Hold):

Total return is expected to closely approximate the total return of a relevant benchmark over the coming 12 months, with shares generally rising in price on an absolute basis.

## \* \* 2-STARS (Sell):

Total return is expected to underperform the total return of a relevant benchmark over the coming 12 months, and the share price not anticipated to show a gain.

## **▲ 1-STAR (Strong Sell):**

Total return is expected to underperform the total return of a relevant benchmark by a wide margin over the coming 12 months, with shares falling in price on an absolute basis.

#### S&P Global Market Intelligence's Quality Ranking

[also known as S&P Global Market Intelligence's
Earnings & Dividend Rankings]- Growth and stability of
earnings and dividends are deemed key elements in
establishing S&P Global Market Intelligence's earnings
and dividend rankings for common stocks, which are
designed to capsulize the nature of this record in a
single symbol. It should be noted, however, that the
process also takes into consideration certain
adjustments and modifications deemed desirable in
establishing such rankings. The final score for each
stock is measured against a scoring matrix determined
by analysis of the scores of a large and representative
sample of stocks. The range of scores in the array of
this sample has been aligned with the following ladder
of rankings:

A+ Highest B Below Average A High B- Lower

A- Above Average C Lowest

B+ Average D In Reorganization

NR Not Ranked

## S&P Capital IQ Consensus Estimates

S&P Capital IQ Consensus Estimates represent the aggregation of individual estimates provided by analysts that are covering a public company. A consensus number can be provided as either the mean or the median. The size of the company and the amount of analyst coverage will determine the size of the group from which the Consensus is derived. All of the available analysts' estimates may not necessarily be included in the Consensus. The Consensus will only include analysts' estimates that are based on the same methodology. Consensus Mean: The mathematical average of the detailed estimates after the appropriate exclusions have been applied. Consensus Median: This represents the midpoint of the range of estimates that are ranked from highest to lowest after the appropriate exclusions have been applied. If the number of estimates is even, then the average of the middle two figures is the median.

## Global Industry Classification Standard (GICS)

An industry classification standard, developed by Standard and Poor's in collaboration with Morgan Stanley Capital International [MSCI]. Under the GICS structure, companies are classified in one of 154 sub-industries, which are grouped into 68 industries, 24 industry groups, and 10 economic sectors [consumer discretionary, consumer staples, energy, financials, health care, industrials, information technology, materials, telecom services, and utilities]. This four-tier structure accommodates companies across the world and facilitates sector analysis and investing.



## Glossary

#### **Peer Group**

A subset of a universe that groups companies by specific criteria, such as industry/across industry, lines of business, geography (local, regional, national, and international), size of business (e. g. in terms of revenue), performance criteria, etc.

#### Universe

A set of companies that shares a common feature such as the same market capitalization, industry or index

#### Beta

Beta is a measurement of the sensitivity of a company's stock price to the overall fluctuation of a given benchmark index. The beta values used in this report are levered, unadjusted and derived from a least squares regression analysis using stock and benchmark index returns based on a monthly frequency. Beta is calculated using 60 monthly returns [each as of month end] but if the company's trading history is too short to provide such a sample, fewer than 60 but not fewer than 24 monthly returns are used to run the regression. Beta in this report uses five different benchmark indices to better estimate a stock's volatility against a respective market: the S&P 500 for all US stocks, the S&P/TSX index for all Canadian stocks, the S&P Europe 350 for all European stocks, the S&P/ASX 200 index for all Australian stocks, and the S&P Global 1200 for all other international stocks.

#### Free Cash Flow (FCF)

Operating Cash Flow minus Capital Expenditures over the past 12 months

## Funds from Operations (FFO)

Funds from Operations (FFO) represents a REIT's net income, excluding gains or losses from sales of property, plus real estate depreciation.

#### Not Meaningful (NM)

Value is available but it is not meaningful. Examples are certain negative ratios such as P/E, as well as certain ratios that are over +/- 100%

#### Not Available (NA)

Value is not available for this data item

## **Return on Capital**

EBIT / [Total Equity + Total Debt + Deferred Tax Liability Non Current + Deferred Tax Liability Current] Notes: [1] If the denominator is less than or equal to zero then the ratio will be shown as NM

[2] If the return is less than [300%] then the value will be shown as  $\ensuremath{\mathsf{NM}}$ 

## **Return on Equity**

Earnings From Continuing Operations / [[Total Equity[t] + Total Equity [t-1]] / 2] Notes:
[1] If both periods of data [t and t-1] are not available then the ratio will be shown as NM
[2] If the denominator is less than or equal to zero then the ratio will be shown as NM

#### Relative Strength vs Index

Relative Strength vs Index measures the stock performance of the company verse all other stocks in the benchmark index each week. Weekly readings are accumulated to form the cumulative Relative Strength line.

#### Relevant benchmarks:

Noiovant Bonomina No.						
Region	Country	Index				
US	US	S&P 500 Index				
Canada	Canada	S&P/TSX Composite Index				
Europe	All	S&P Europe 350 Index				
Asia ex Japan	Australia	S&P/ASX 200 Index				
Asia ex Japan	All except Australia	S&P Global 1200				

#### **Abbreviations used in CFRA Equity Research Reports**

CAGR	Compound Annual Growth Rate
EBIT	Earnings Before Interest and Taxes
EBITDA	Earnings Before Interest Taxes Depreciation and Amortization
EPS	Earnings Per Share
EV	Enterprise Value
FCF	Free Cash Flow
FFO	Funds from Operations
LTD	Long Term Debt
NM	Not Meaningful (see definition above)
P/E	Price/Earnings

Dividends on American Depository Receipts (ADRs) and American Depository Shares (ADSs) are net of taxes (paid in the country of origin).



#### **Disclosures**

Stocks are ranked in accordance with the following ranking methodologies:

#### **STARS Stock Reports:**

Qualitative STARS recommendations are determined and assigned by equity analysts. For reports containing STARS recommendations refer to the Glossary section of the report for detailed methodology and the definition of STARS rankings.

#### **Quantitative Stock Reports:**

Quantitative recommendations are determined by ranking a universe of common stocks based on 5 measures or model categories: Valuation, Quality, Growth, Street Sentiment, and Price Momentum. In the U.S., a sixth sub-category for Financial Health will also be displayed. Percentile scores are used to compare each company to all other companies in the same universe for each model category. The five [six] model category scores are then weighted and rolled up into a single percentile ranking for that company. For reports containing quantitative recommendations refer to the Glossary section of the report for detailed methodology and the definition of Quantitative rankings.

#### STARS Stock Reports and Quantitative Stock Reports:

The methodologies used in STARS Stock Reports and Quantitative Stock Reports [collectively, the "Research Reports"] reflect different criteria, assumptions and analytical methods and may have differing recommendations. The methodologies and data used to generate the different types of Research Reports are believed by the author and distributor reasonable and appropriate. Generally, CFRA does not generate reports with different ranking methodologies for the same issuer. However, in the event that different methodologies or data are used on the analysis of an issuer, the methodologies may lead to different views or recommendations on the issuer, which may at times result in contradicting assessments of an issuer. CFRA reserves the right to alter, replace or vary models, methodologies or assumptions from time to time and without notice to clients.

#### **Analyst Certification**

STARS Stock Reports are prepared by the equity research analysts of CFRA its affiliates and subsidiaries. Quantitative Stock Reports are prepared by CFRA. All of the views expressed in STARS Stock Reports accurately reflect the research analyst's personal views regarding any and all of the subject securities or issuers; all of the views expressed in the Quantitative Stock Reports accurately reflect the output of CFRA's algorithms and programs. Analysts generally update STARS Stock Reports at least four times each year. Quantitative Stock Reports are generally updated weekly. No part of analyst, CFRA, CFRA affiliate, or CFRA subsidiary compensation was, is, or will be directly or indirectly related to the specific recommendations or views expressed in any Stock Report.

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