

# Quarterly Industry Update

As of December 31, 2015

Industry: Monoclonal Antibodies



## Industry Summary

Cogent Valuation identified Monoclonal Antibodies publicly traded companies, IPOs, and recent M&A transactions within the Monoclonal Antibodies industry, which provides a basis for market and transaction pricing that can be used by your firm in estimating market sentiment and its impact on your firm's value. Over the last year since December 31, 2014, the median 52-week share price return of the Monoclonal Antibodies industry was -13.8%. Between December 31, 2013 and December 31, 2015, the median EV/Revenue multiple decreased from 5.6 to 3.1. This industry is not profitable and all other valuation multiples based on profitability metrics were not meaningful.

## Comparable Public Company Key Statistics

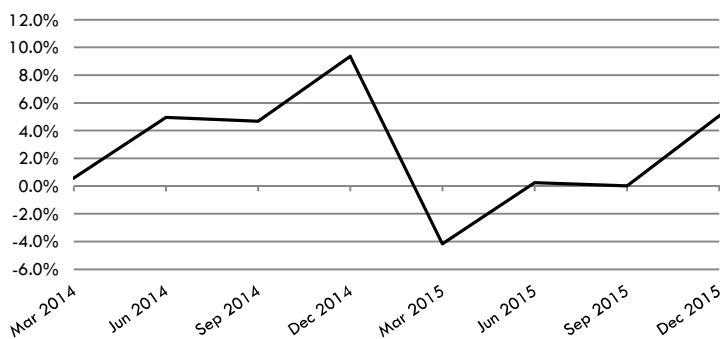
Median 52-Week Return -13.8%      Median EV/Revenue Multiple 3.1x      Median 3-Year CAGR Return 17.1%

## Comparable Public Company Market Price Returns As of December 31, 2015

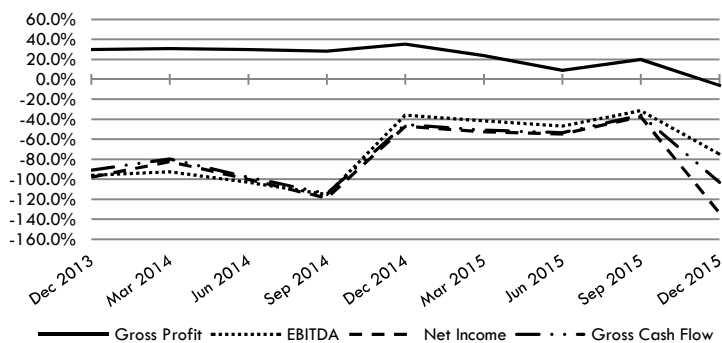
|  | YTD           | 3 Month      | 1 Year        | 2 Year        | 3 Year       | 5 Year      | 2015          | 2014        | 2013         | 2012         | 2011          |
|--|---------------|--------------|---------------|---------------|--------------|-------------|---------------|-------------|--------------|--------------|---------------|
| Alder Biopharmaceuticals Inc.              | 13.5%         | 0.8%         | 13.5%         | N/A           | N/A          | N/A         | 13.5%         | N/A         | N/A          | N/A          | N/A           |
| AVEO Pharmaceuticals, Inc.                 | 50.0%         | 4.1%         | 50.0%         | -17.0%        | -46.1%       | -38.8%      | 50.0%         | -54.1%      | -77.3%       | -53.2%       | 17.6%         |
| Celldex Therapeutics, Inc.                 | -14.1%        | 48.8%        | -14.1%        | -19.5%        | 32.7%        | 30.6%       | -14.1%        | -24.6%      | 260.8%       | 158.1%       | -36.9%        |
| Dyax Corp.                                 | 167.6%        | 97.1%        | 167.6%        | 123.4%        | 121.1%       | 77.1%       | 167.6%        | 86.6%       | 116.5%       | 155.9%       | -37.0%        |
| Halozyme Therapeutics, Inc.                | 79.6%         | 29.0%        | 79.6%         | 7.5%          | 37.2%        | 17.0%       | 79.6%         | -35.6%      | 123.4%       | -29.4%       | 20.1%         |
| Immunomedics Inc.                          | -36.0%        | 78.5%        | -36.0%        | -18.3%        | 1.7%         | -3.0%       | -36.0%        | 4.3%        | 57.5%        | -12.3%       | -7.0%         |
| Infinity Pharmaceuticals, Inc.             | -53.5%        | -7.1%        | -53.5%        | -24.6%        | -39.2%       | 5.8%        | -53.5%        | 22.3%       | -60.5%       | 295.9%       | 49.1%         |
| Lpath Inc.                                 | -91.9%        | 19.0%        | -91.9%        | -76.9%        | -64.4%       | -48.4%      | -91.9%        | -33.8%      | -15.6%       | -39.4%       | 33.7%         |
| Omeros Corporation                         | -36.5%        | 43.5%        | -36.5%        | 18.0%         | 44.7%        | 13.8%       | -36.5%        | 119.5%      | 117.5%       | 31.4%        | -52.1%        |
| OncoMed Pharmaceuticals, Inc.              | 3.6%          | 35.9%        | 3.6%          | -12.6%        | N/A          | N/A         | 3.6%          | -26.3%      | N/A          | N/A          | N/A           |
| PDL BioPharma, Inc.                        | -54.1%        | -29.6%       | -54.1%        | -35.2%        | -20.5%       | -10.7%      | -54.1%        | -8.6%       | 19.9%        | 13.5%        | -0.5%         |
| Peregrine Pharmaceuticals, Inc.            | -15.8%        | 14.7%        | -15.8%        | -8.3%         | -3.9%        | -12.6%      | -15.8%        | 0.0%        | 5.3%         | 28.2%        | -55.2%        |
| Repligen Corporation                       | 42.9%         | 1.6%         | 42.9%         | 44.0%         | 65.2%        | 43.2%       | 42.9%         | 45.2%       | 117.2%       | 81.0%        | -26.0%        |
| Sorrento Therapeutics, Inc.                | -13.5%        | 3.8%         | -13.5%        | 3.7%          | 32.4%        | -10.3%      | -13.5%        | 24.3%       | 116.0%       | -25.0%       | -66.7%        |
| <b>Median of Industry Public Companies</b> | <b>-13.8%</b> | <b>16.8%</b> | <b>-13.8%</b> | <b>-12.6%</b> | <b>17.1%</b> | <b>1.4%</b> | <b>-13.8%</b> | <b>0.0%</b> | <b>86.8%</b> | <b>20.9%</b> | <b>-16.5%</b> |

(Multiple year periods are calculated as the average annual return.)

## Median Quarterly Revenue Growth of All Monoclonal Antibodies Companies



## Median Gross Profit, EBITDA, Net Income and Gross Cash Flow Margins



## Median Public Company Multiples of the Monoclonal Antibodies Industry

| Date:                | 12/31/2013 | 3/31/2014 | 6/30/2014 | 9/30/2014 | 12/31/2014 | 3/31/2015 | 6/30/2015 | 9/30/2015 | 12/31/2015 |
|----------------------|------------|-----------|-----------|-----------|------------|-----------|-----------|-----------|------------|
| EV/Revenues Multiple | 5.6x       | 5.8x      | 8.0x      | 6.7x      | 8.0x       | 5.9x      | 5.1x      | 5.8x      | 3.1x       |

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# Quarterly Industry Update

As of December 31, 2015

Industry: Monoclonal Antibodies

## Industry Initial Public Offerings (dollars in millions, except share prices)

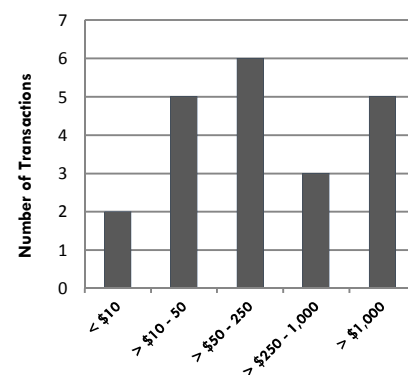
| Offer Date                | Company Name                  | Offer Price | Shares Offered | Amount Raised | Total Assets  | Debt         | LTM Revenues  | LTM EBITDA      | LTM Net Income  | LTM Cash Flows  |
|---------------------------|-------------------------------|-------------|----------------|---------------|---------------|--------------|---------------|-----------------|-----------------|-----------------|
| 12/10/2014                | ALTEOGEN Inc.                 | \$23.53     | 0.9            | \$21.2        | \$5.4         | \$1.1        | \$3.7         | \$1.6           | \$1.3           | \$1.6           |
| 11/13/2014                | FibroGen, Inc.                | \$18.00     | 8.1            | \$145.8       | \$344.4       | \$114.1      | \$133.9       | (\$22.6)        | (\$35.7)        | (\$18.1)        |
| 5/8/2014                  | Alder Biopharmaceuticals Inc. | \$10.00     | 8.0            | \$80.0        | \$26.7        | \$0.0        | \$18.8        | (\$19.8)        | (\$20.6)        | (\$18.9)        |
| 12/2/2013                 | Xencor, Inc.                  | \$5.50      | 12.7           | \$70.0        | \$20.2        | \$0.0        | \$10.9        | (\$8.4)         | (\$59.7)        | (\$8.2)         |
| 10/10/2013                | MacroGenics, Inc.             | \$16.00     | 5.0            | \$80.0        | \$42.2        | \$0.0        | \$48.8        | (\$2.3)         | (\$3.2)         | (\$1.3)         |
| 7/17/2013                 | OncoMed Pharmaceuticals, Inc. | \$17.00     | 4.8            | \$81.6        | \$69.8        | \$0.0        | \$25.1        | (\$19.0)        | (\$20.3)        | (\$17.7)        |
| <b>Median of All IPOs</b> |                               | <b>nm</b>   | <b>nm</b>      | <b>\$80.0</b> | <b>\$34.5</b> | <b>\$0.0</b> | <b>\$21.9</b> | <b>(\$13.7)</b> | <b>(\$20.5)</b> | <b>(\$12.9)</b> |

nm: not meaningful, N/A: not applicable

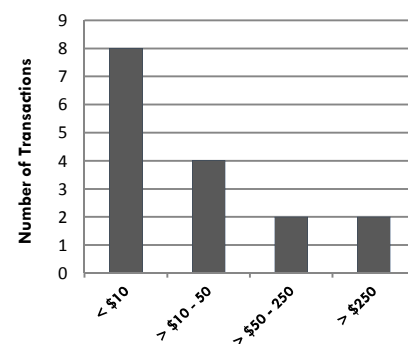
## Recent Merger and Acquisition Transactions for a Majority Stake (dollars in millions)

| Transaction Date                                    | Target                     | Acquirer                   | Transaction Size | % Bought    | LTM Revenues  | EV/Revenues |
|---|----------------------------|----------------------------|------------------|-------------|---------------|-------------|
| 11/23/2015  | AxioMx Inc.                | Abcam Plc                  | \$45.0           | 100%        | N/A           | N/A         |
| 10/30/2015  | BioNovion B.V.             | Aduro Netherlands          | \$61.3           | 100%        | N/A           | N/A         |
| 9/11/2015   | PacificGMP, Inc.           | Abzena Inc.                | \$8.4            | 100%        | \$3.0         | 2.8x        |
| 6/1/2015  | X-BODY, Inc.               | Juno Therapeutics Inc.     | \$42.8           | 100%        | N/A           | N/A         |
| 3/12/2015   | KBI Biopharma Inc.         | JSR Corporation; CMIC      | \$100.0          | 100%        | N/A           | N/A         |
| 3/3/2015  | SuppreMol GmbH             | Baxter International Inc.  | \$223.9          | 100%        | N/A           | N/A         |
| 9/23/2014   | CFR Pharmaceuticals        | Abbott Investments         | \$2,659.3        | 73%         | \$782.3       | 4.3x        |
| 4/30/2014   | Shanghai PrimeGene         | R&D Systems China          | \$18.8           | 100%        | \$4.0         | 4.7x        |
| 12/31/2013  | Santarus, Inc.             | Salix Pharmaceuticals      | \$2,154.4        | 100%        | \$337.8       | 5.9x        |
| 2/8/2013  | YM BioSciences Inc.        | Gilead Sciences Inc.       | \$482.9          | 100%        | \$1.1         | N/A         |
| 8/2/2012  | Human Genome Sciences Inc. | GlaxoSmithKline plc        | \$3,674.4        | 100%        | \$151.5       | 21.1x       |
| 4/18/2012   | Epitomics, Inc.            | Abcam Plc                  | \$153.9          | 100%        | \$24.7        | 6.2x        |
| 3/5/2012  | Micromet, Inc.             | Amgen Inc.                 | \$1,016.4        | 100%        | \$21.9        | 39.1x       |
| 2/10/2012   | Inhibitex, Inc.            | Bristol-Myers Squibb       | \$2,579.0        | 100%        | \$2.1         | N/A         |
| 5/24/2011   | MitoSciences Inc.          | Abcam Plc                  | \$6.0            | 100%        | \$2.1         | 2.9x        |
| 10/7/2010   | ZymoGenetics, Inc.         | Bristol-Myers Squibb       | \$938.2          | 100%        | \$162.8       | 4.5x        |
| 4/19/2010   | Facet Biotech Corporation  | Abbott Laboratories        | \$747.4          | 100%        | \$46.1        | 9.7x        |
| 3/4/2010  | BioXell S.p.A.             | Cosmo Pharmaceuticals      | \$40.4           | 100%        | \$0.4         | N/A         |
| 10/1/2009   | CuraGen Corporation        | Celldex Therapeutics, Inc. | \$143.5          | 100%        | \$1.2         | 55.3x       |
| 9/23/2008   | Arius Research Inc.        | Roche Holding AG           | \$142.7          | 100%        | \$2.5         | 54.4x       |
| 5/8/2008  | Jazz Pharmaceuticals       | EUSA Pharma, Inc.          | \$22.6           | 100%        | \$20.2        | 0.7x        |
| <b>Median of the 21 M&amp;A Transaction Targets</b> |                            |                            | <b>\$143.5</b>   | <b>100%</b> | <b>\$12.1</b> | <b>5.9x</b> |

### Size of M&A Transactions



### LTM Revenues Reported



### Definitions of Financial Terms Used in this Quarterly Industry Update:

Enterprise Value (EV): Market Value of Equity + Market Value of Debt - Cash

Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA): Profitability metric sometimes also referred to as operating profit or operating earnings.

Gross Cash Flows: Net Income + Depreciation and Amortization Expense

Latest Twelve Months (LTM): Financial information is as of the latest twelve months through the date of this Quarterly Industry Update.

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