



INDEXES

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Information about the index, including rule book, company description and historic data, can be found at:  
[www.poliwoggindexes.com](http://www.poliwoggindexes.com)

TICKERS:

**Poliwogg Medical Breakthroughs Index: PMBI**

**Poliwogg Medical Breakthroughs Total Return Index: PMBITR**

March 2017

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# Q1 2017 Review: Poliwogg Medical Breakthroughs Index

**Index Performance.** The Poliwogg Medical Breakthroughs Total Return Index (TICKER: PMBITR) increased +12.41% from 5118.89 to 5754.37 in the quarter ended March 2017. This compares to an increase in The S-Network 500 Total Return Index (TICKER: SN500T) of +6.25% and an increase in the Dynamic Biotech & Genome Intellidex Total Return Index (TICKER: DZOTR) of +8.99%.

The Poliwogg Medical Breakthroughs Index rose +17.89% in the past 12 months. This compares to a +17.59% rise in the S-Network 500 Total Return Index and a +10.71% rise in the Dynamic Biotech & Genome Intellidex Total Return Index.

**Index Description.** The Poliwogg Medical Breakthroughs Index (TICKER: PMBI) is designed to capture research and development opportunities in the pharmaceutical industry. PMBI consists of small-cap and mid-cap pharmaceutical and biotechnology stocks listed on US stock exchanges that have one or more drugs in either Phase II or Phase III US FDA clinical trials.

**Inclusion Criteria.** PMBI consists of companies listed on US stock exchanges principally engaged in one of the following healthcare industries: a) Biotechnology and b) Pharmaceuticals. Constituents must have a market capitalization of no less than \$200 million and no more than \$5 billion. Constituents must sustain an average daily trading volume in excess of \$1 million for the 90-day period preceding a reconstitution. Constituents must have one or more drugs in either Phase II or Phase III US FDA clinical trials. Constituents must be able to sustain their cash burn rates for at least 24 months.

**Weighting Methodology.** PMBI uses a modified capitalization weighting methodology, which is not adjusted for float. The index weight of the largest stock is capped at 4.5% and the excess weight is redistributed proportionately over the remainder of the index.

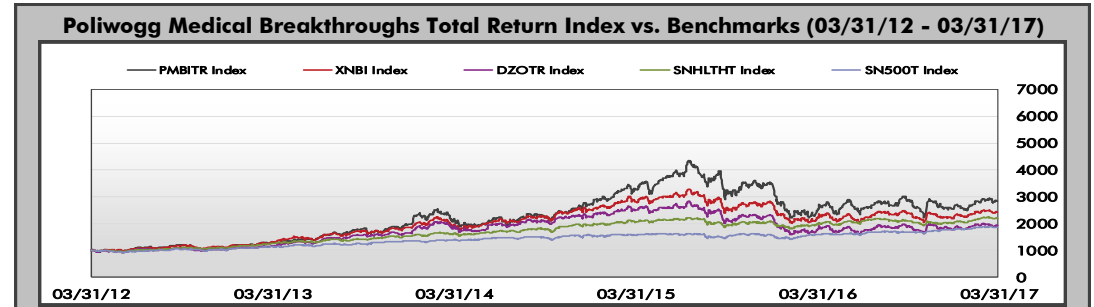
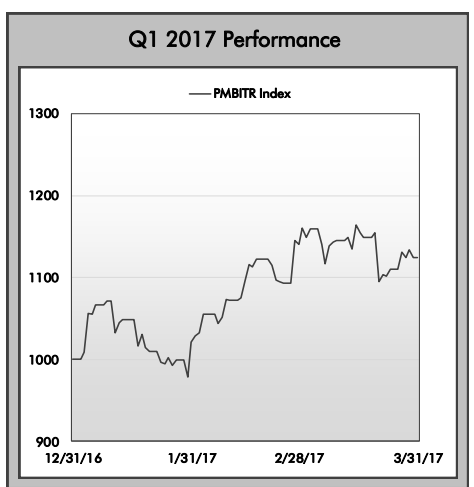
**Rebalancing.** PMBI is reconstituted semi-annually on the third Friday of June and December of each year. In addition, PMBI is rebalanced quarterly on the third Friday of the last month of each calendar quarter.

**Index Data.** PMBI is calculated daily by S-Network Global Indexes. Daily values from December 31, 2006 are available on the Poliwogg website and through various data vendors. End-of-day index values are distributed via daily the Chicago Mercantile Exchange Feed.

Leading Movers				
Company Name	Ticker	Opening	Closing	Change
GLOBAL BLOOD THERAPEUTICS INC	GBT UQ	14.45	36.85	155.02%
KITE PHARMA INC	KITE UQ	44.84	78.49	75.04%
PORTOLA PHARMACEUTICALS INC	PTLA UQ	22.44	39.19	74.64%
CONCERT PHARMACEUTICALS INC	CNCE UQ	10.29	17.06	65.79%
ADVANCED ACCELERATOR APP SA	AAAP UQ	26.76	39.86	48.95%

Lagging Movers				
Company Name	Ticker	Opening	Closing	Change
NOVAN INC	NOVN UQ	27.02	6.38	-76.39%
INOTEK PHARMACEUTICALS CORP	ITEK UQ	6.10	2.00	-67.21%
FOAMIX PHARMACEUTICALS LTD	FOMX UQ	11.10	4.95	-55.41%
AMAG PHARMACEUTICALS INC	AMAG UQ	34.80	22.55	-35.20%
ENDO INTERNATIONAL PLC	ENDP UQ	16.47	11.16	-32.24%



\*Note: This chart is a normalized historical graph  
 Data Source: Bloomberg Data as of March 31, 2017

This chart is for illustrative purposes only. Historical information is not indicative of future results; current data may differ from data quoted. Investors cannot invest directly in index. Index returns do not reflect any management fees or brokerage expenses.

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Index Statistical Profile

Capitalization Profile		
Number of Constituents	83	
TOTAL MARKET CAPITALIZATION	120.35	Billion USD
LARGEST MARKET CAPITALIZATION	6.30	Billion USD
SMALLEST MARKET CAPITALIZATION	53.97	Million USD
AVERAGE MARKET CAPITALIZATION	1.45	Billion USD
MEDIAN MARKET CAPITALIZATION	933.66	Million USD

Total Return Appreciation					
	PMBITR	XNBI	DZOTR	SNHLTHT	SN500T
5 Year	184.81%	143.23%	91.74%	119.28%	86.53%
3 Year	31.83%	25.62%	3.12%	35.17%	34.40%
1 Year	17.89%	13.04%	10.71%	12.47%	17.59%

Compound Annual Growth Rate (CAGR)					
	PMBITR	XNBI	DZOTR	SNHLTHT	SN500T
5 Year	23.29%	19.45%	13.91%	17.00%	13.28%
3 Year	9.65%	7.90%	1.03%	10.57%	10.36%
1 Year	17.89%	13.04%	10.71%	12.47%	17.59%

Annualized Standard Deviation (Monthly)					
	PMBITR	XNBI	DZOTR	SNHLTHT	SN500T
5 Year	30.89%	22.64%	24.46%	12.30%	10.30%
3 Year	34.55%	24.23%	26.51%	13.07%	10.49%
1 Year	31.74%	23.39%	24.30%	12.52%	6.18%

Sharpe Ratio					
	PMBITR	XNBI	DZOTR	SNHLTHT	SN500T
5 Year	0.8370	0.8998	0.6537	1.3339	1.2541
3 Year	0.4398	0.4304	0.1676	0.8217	0.9757
1 Year	0.6586	0.6173	0.5159	0.9686	2.6043

\*All data as of March 31, 2017

\*\*Dependent variable shown in Column Headers, Independent shown in Row Headers

Top Ten Constituents			
Company	Ticker	Country	Weight
EXELIXIS INC	EXEL UQ	UNITED STATES	4.51%
TARO PHARMACEUTICAL INDUSTRIES	TARO UN	ISRAEL	4.04%
IONIS PHARMACEUTICALS INC	IONS UQ	UNITED STATES	4.02%
ALNYLAM PHARMACEUTICALS INC	ALNY UQ	UNITED STATES	3.73%
KITE PHARMA INC	KITE UQ	UNITED STATES	3.64%
ACADIA PHARMACEUTICALS INC	ACAD UQ	UNITED STATES	3.52%
GALAPAGOS N.V.	GLPG UQ	BELGIUM	3.36%
NEUROCRINE BIOSCIENCES INC	NBIX UQ	UNITED STATES	3.19%
BLUEBIRD BIO INC	BLUE UQ	UNITED STATES	3.14%
GW PHARMACEUTICALS PLC	GWPH UQ	UNITED KINGDOM	2.59%

Beta Matrix** (5 Year/Monthly)					
	PMBITR	XNBI	DZOTR	SNHLTHT	SN500T
PMBITR	1.0000	0.6878	0.7401	0.3156	0.1822
XNBI	1.2814	1.0000	1.0394	0.4658	0.2816
DZOTR	1.1803	0.8898	1.0000	0.4205	0.2563
SNHLTHT	1.9894	1.5762	1.6623	1.0000	0.6812
SN500T	1.6403	1.3613	1.4472	0.9730	1.0000

Correlation Matrix** (5 Year/Monthly)					
	PMBITR	XNBI	DZOTR	SNHLTHT	SN500T
PMBITR	1.0000				
XNBI	0.9388	1.0000			
DZOTR	0.9346	0.9617	1.0000		
SNHLTHT	0.7923	0.8568	0.8361	1.0000	
SN500T	0.5467	0.6192	0.6091	0.8141	1.0000

R-Square Matrix** (5 Year/Monthly)					
	PMBITR	XNBI	DZOTR	SNHLTHT	SN500T
PMBITR	1.0000				
XNBI	0.8814	1.0000			
DZOTR	0.8735	0.9249	1.0000		
SNHLTHT	0.6278	0.7342	0.6990	1.0000	
SN500T	0.2988	0.3834	0.3710	0.6628	1.0000

Index Composition

