

The following portfolio data for the Franklin Templeton funds is made available to the public under our Portfolio Holdings Release Policy and is "as of" the date indicated.

*This portfolio data should not be relied upon as a complete listing of a fund's holdings (or of a fund's top holdings) as information on particular holdings may be withheld if it is in the fund's interest to do so. Additionally, foreign currency forwards are not included in the portfolio data. Instead, the net market value of all currency forward contracts is included in cash and other net assets of the fund. Further, portfolio holdings data of over-the-counter derivative investments such as Credit Default Swaps, Interest Rate Swaps or other Swap contracts list only the name of counterparty to the derivative contract, not the details of the derivative. Complete portfolio data can be found in the annual financial statements of the fund.*

Security Identifier	Security Name	Shares/ Positions Held	Market Value	% of TNA	Coupon Rate	Maturity Date
282559103	89BIO INC	129,000	\$3,257,250	0.23%	N/A	N/A
004225108	ACADIA PHARMACEUTICALS INC	381,900	\$16,135,275	1.15%	N/A	N/A
000899104	ADMA BIOLOGICS INC	596,400	\$1,717,632	0.12%	N/A	N/A
00771V108	AERIE PHARMACEUTICALS INC	674,000	\$9,099,000	0.65%	N/A	N/A
014442107	ALECTOR INC	185,100	\$4,466,463	0.32%	N/A	N/A
015351109	ALEXION PHARMACEUTICALS INC	353,800	\$31,767,702	2.27%	N/A	N/A
02043Q107	ALNYLAM PHARMACEUTICALS INC	70,200	\$7,641,270	0.55%	N/A	N/A
023111206	AMARIN CORP PLC	289,500	\$1,158,000	0.08%	N/A	N/A
031162100	AMGEN INC	432,200	\$87,619,906	6.26%	N/A	N/A
03828A101	APPLIED THERAPEUTICS INC	195,413	\$6,388,050	0.46%	N/A	N/A
03969F109	ARCUS BIOSCIENCES INC	260,900	\$3,621,292	0.26%	N/A	N/A
04016X101	ARGENX SE	228,578	\$30,110,579	2.15%	N/A	N/A
04335A105	ARVINAS INC	77,300	\$3,115,190	0.22%	N/A	N/A
04351P101	ASCENDIS PHARMA A/S	287,767	\$32,405,441	2.31%	N/A	N/A
045396108	ASSEMBLY BIOSCIENCES INC	348,100	\$5,162,323	0.37%	N/A	N/A
05156V102	AURINIA PHARMACEUTICALS INC	722,700	\$10,486,377	0.75%	N/A	N/A
BFMLGR4	AUTOLUS THERAPEUTICS PLC	313,025	\$1,875,019	0.13%	N/A	N/A
07373V105	BEAM THERAPEUTICS INC	172,400	\$3,103,200	0.22%	N/A	N/A
09062X103	BIOGEN INC	295,710	\$93,556,729	6.68%	N/A	N/A
09061G101	BIOMARIN PHARMACEUTICAL INC	192,209	\$16,241,660	1.16%	N/A	N/A
09203E105	BLACK DIAMOND THERAPEUTICS INC	172,200	\$4,296,390	0.31%	N/A	N/A
09609G100	BLUEBIRD BIO INC	48,300	\$2,219,868	0.16%	N/A	N/A
09627Y109	BLUEPRINT MEDICINES CORP	57,400	\$3,356,752	0.24%	N/A	N/A
10806X102	BRIDGEBIO PHARMA INC	164,500	\$4,770,500	0.34%	N/A	N/A
140755109	CARA THERAPEUTICS INC	335,800	\$4,435,918	0.32%	N/A	N/A
19459J104	COLLEGIUM PHARMACEUTICAL INC	578,136	\$9,440,960	0.67%	N/A	N/A
210373106	CONSTELLATION PHARMACEUTICALS INC	218,300	\$6,861,169	0.49%	N/A	N/A
H17182108	CRISPR THERAPEUTICS AG	224,219	\$9,509,127	0.68%	N/A	N/A

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23257D103	CYMABAY THERAPEUTICS INC	713,000	\$1,055,240	0.08%	N/A	N/A
24344T101	DECIPHERA PHARMACEUTICALS INC	676,578	\$27,854,716	1.99%	N/A	N/A
30233G100	EYEPOINT PHARMACEUTICALS INC	2,385,100	\$2,432,802	0.17%	N/A	N/A
31189P102	FATE THERAPEUTICS INC	659,178	\$14,640,343	1.05%	N/A	N/A
375558103	GILEAD SCIENCES INC	1,172,000	\$87,618,720	6.25%	N/A	N/A
37890U108	GLOBAL BLOOD THERAPEUTICS INC	352,600	\$18,014,334	1.29%	N/A	N/A
38341P102	GOSSAMER BIO INC	278,400	\$2,825,760	0.20%	N/A	N/A
B94RPL5	GW PHARMACEUTICALS PLC	573,700	\$50,238,909	3.59%	N/A	N/A
427746102	HERON THERAPEUTICS INC	2,367,420	\$27,793,510	1.98%	N/A	N/A
438083107	HOMOLOGY MEDICINES INC	186,000	\$2,890,440	0.21%	N/A	N/A
452327109	ILLUMINA INC	236,600	\$64,620,192	4.61%	N/A	N/A
452907108	IMMUNOMEDICS INC	1,032,000	\$13,911,360	0.99%	N/A	N/A
457669307	INSMED INC	918,700	\$14,726,761	1.05%	N/A	N/A
DDD573353	INTARCIA THERAPEUTICS INC	166,795	\$0	0.00%	N/A	N/A
462222100	IONIS PHARMACEUTICALS INC	136,700	\$6,463,176	0.46%	N/A	N/A
462260100	IOVANCE BIOTHERAPEUTICS INC	1,927,854	\$57,710,309	4.12%	N/A	N/A
483497103	KALVISTA PHARMACEUTICALS INC	134,800	\$1,031,220	0.07%	N/A	N/A
DDD878132	KEZAR LIFE SCIENCES INC	1,173,350	\$5,115,806	0.37%	N/A	N/A
54142F102	LOGICBIO THERAPEUTICS INC	419,300	\$2,071,342	0.15%	N/A	N/A
DDD876446	METACRINE INC	2,207,049	\$3,770,436	0.27%	N/A	N/A
603380106	MINERVA NEUROSCIENCES INC	708,300	\$4,263,966	0.30%	N/A	N/A
60468T105	MIRATI THERAPEUTICS INC	178,500	\$13,721,295	0.98%	N/A	N/A
617760202	MORPHOSYS AG	338,300	\$8,312,031	0.59%	N/A	N/A
64125C109	NEUROCRINE BIOSCIENCES INC	377,505	\$32,673,057	2.33%	N/A	N/A
670002401	NOVAVAX INC	569,600	\$7,735,168	0.55%	N/A	N/A
676079106	ODONATE THERAPEUTICS INC	417,039	\$11,514,446	0.82%	N/A	N/A
68404V100	OPTINOSE INC	830,800	\$3,730,292	0.27%	N/A	N/A
717071104	PFENEX INC	1,199,927	\$10,583,356	0.76%	N/A	N/A
74019P108	PRECISION BIOSCIENCES INC	652,759	\$3,936,136	0.28%	N/A	N/A
74257L108	PRINCIPIA BIOPHARMA INC	87,600	\$5,201,688	0.37%	N/A	N/A
69366J200	PTC THERAPEUTICS INC	1,012,600	\$45,172,086	3.22%	N/A	N/A
75615P103	REATA PHARMACEUTICALS INC	237,200	\$34,237,448	2.44%	N/A	N/A
75886F107	REGENERON PHARMACEUTICALS INC	174,000	\$84,962,460	6.07%	N/A	N/A
75955J402	RELMADA THERAPEUTICS INC	133,734	\$4,561,666	0.33%	N/A	N/A
761330109	REVANCE THERAPEUTICS INC	955,271	\$14,138,010	1.01%	N/A	N/A
76155X100	REVOLUTION MEDICINES INC	201,100	\$4,406,101	0.31%	N/A	N/A
45780V102	ROCKET PHARMACEUTICALS INC	209,103	\$2,916,986	0.21%	N/A	N/A
78667J108	SAGE THERAPEUTICS INC	137,530	\$3,949,861	0.28%	N/A	N/A
803607100	SAREPTA THERAPEUTICS INC	102,900	\$10,065,678	0.72%	N/A	N/A
85205L107	SPRINGWORKS THERAPEUTICS INC	123,200	\$3,326,400	0.24%	N/A	N/A

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88338N107	THERAPEUTICSMD INC	2,579,748	\$2,734,532	0.20%	N/A	N/A
89532M101	TREVI THERAPEUTICS INC	363,638	\$1,196,369	0.09%	N/A	N/A
89620X506	TRILLIUM THERAPEUTICS INC	872,200	\$3,523,688	0.25%	N/A	N/A
DDD810924	TRUE NORTH THERAPEUTICS INC	1,239,800	\$1,552,168	0.11%	N/A	N/A
90400D108	ULTRAGENYX PHARMACEUTICAL INC	220,100	\$9,779,043	0.70%	N/A	N/A
BJFSR88	UNIQUE NV	246,700	\$11,705,915	0.84%	N/A	N/A
92532F100	VERTEX PHARMACEUTICALS INC	463,762	\$110,352,167	7.88%	N/A	N/A
926613100	VIELA BIO INC	187,400	\$7,121,200	0.51%	N/A	N/A
98978L204	ZOGENIX INC	201,500	\$4,983,095	0.36%	N/A	N/A
98985W102	ZYMEWORKS INC	282,395	\$10,016,550	0.72%	N/A	N/A

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