Electronic Supplementary Material (ESI) for RSC Advances.

Electronic Supplementary Material

Rapid selection of aptamers based on Protein Microarray

Fang Yu [a], Hui Li*[a], Wei Sun[b], Danke Xu*[a], Fuchu He*[a,b]

[a] *State Key Laboratory of Analytical Chemistry for Life Science, School of Chemistry and Chemical Engineering, Nanjing University, Nanjing, Jiangsu 210046, China*

[b] *State Key Laboratory of Proteomics, National Center for Protein Sciences Beijing, Beijing Institute of Radiation Medicine, Beijing 102206, China*

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Fig. S1 The fluorescence images of enriched aptamers on negative microarrays in every round of the first selection.

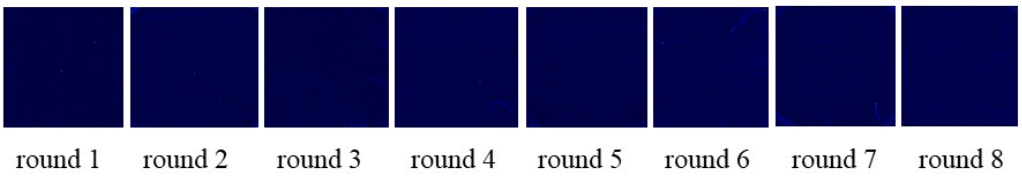

Table S1 The selected aptamers candidates for the first circle selection of Lac.

Aptamer-ID	Sequences of N40 from 5' to 3'	Δ G (kcal mol^{-1})	The sixth round	Truncated sequences of library from 5' to 3'	Δ G (kcal mol^{-1})
YFL-1	CGGTGCATCTATGGCTACTAG CTTTTCCTGCCTATACTAC	-2.27	2	AGGCAGGACACCGTAACCGGTGCATCTATGGCTACTAGCT TTTCCTGCCT	-11.92
YFL-2	AATACTCCTGTTACCGTGCAT CTATGGCCATTGGCTTTTC	-2.26	2	GGCAGGACACCGTAACAATACTCCTGTTACCGTGCATCTAT GGCCATTGGCTTTTCCTGCT	-9.35
YFL-3	CCTAACACGTACGGGGCATTT ATGGCATAGCTCTTCCTCC	-0.77	6	GGCAGGACACCGTAACCCTAACACGTACGGGGCATTTATG GCATAGCTCTTCCTCCCTGCT	-7.16
YFL-4	ACGGGCTGATGCTCTCTTTAT TTTACCTAAATAAAGTGTC	-7.06	7	GCAGGACACCGTAACACGGGCTGATGCTCTCTTTATTTTAC CTAAATAAAGTGTCCTGC	-14.3
YFL-5	CGGGCATTTGCTCTCAATTTA GTCTCAAATTGTGGCCTGC	-5.01	2	CAGGCAGGACACCGTAACCGGGCATTTGCTCTCAATTTAG TCTCAAATTGTGGCCTGCCTG	-14.04
YFL-6	CGGTGCATCTATGGCTACTAG CTCTTCCTGCCTATACTAC	-2.27	18	AGGCAGGACACCGTAACCGGTGCATCTATGGCTACTAGCT CTTCCTGCCT	-11.21
YFL-7	GGGTGCACACTCTTATTTTTA CACGAGCCAAAAATATGTC	-3.53	3	GCAGGACACCGTAACGGGTGCACACTCTTATTTTTACACG AGCCAAAAATATGTCCTGC	-9.51
YFL-8	TCATCCCAAGCTCCGGTGCCA TCTATGGGCTTCGCTTTTC	-2.47	3	GGCAGGACACCGTAACTCATCCCAAGCTCCGGTGCCATCT ATGGGCTTCGCTTTTCCTGCT	-8.19
YFL-9	CCCTAGTTCCTGGTGCATTTAT GGCAAAGCTTTTCCTGCC	-2.75	3	AGGCAGGACACCGTAACCCCTAGTTCCTGGTGCATTTATG GCAAAGCTTTTCCTGCCC	-9.26
YFL-10	ACTGCTTTATCCCCGTCGGCTT GGCTCTTCGACAGTGTGG	-3.33	4	GCAGGACACCGTAACACTGCTTTATCCCCGTCGGCTTGGCT CTTCGACAGTGTGGCTGCTACC	-6.06
YFL-11	ACTGCTTTATCCCCGTCGGCTT GGCTCTTCGACAGTGTTG	-3.33	2	GGCAGGACACCGTAACACTGCTTTATCCCCGTCGGCTTGGC TCTTCGACAGTGTTGCTGCT	-5.83
YFL-12	ATTTGAGCAGACGGGAGACCT TTAGAGTTGTAACTTGAGT	-2.85	4	GAGCAGACGGGAGACCTTTAGAGTTGTAACTTGAGTCTGC TA	-7.12
YFL-13	GGTGCATCCATGGCTTTTAGC TCTTCCTGAACTGTCACAC	-2.68	2	GACAGGCAGGACACCGTAACGGTGCATCCATGGCTTTTAG CTCTTCCTGAACTGTCA	-10.7
YFL-14	GGTGCATCTATGGCTTTGCTC TTCCTACCTGTTCTACGAG	-1.61	2	GACAGGCAGGACACCGTAACGGTGCATCTATGGCTTTGCT CTTCCTACCTGTTCTACGAGCTGCTACCTCCCTCCTCT	-8.58
YFL-15	GACCGGTTCTCGTAGGTGCGC GTATGCGGCTATGCTTTTC	-4.83	2	GGCAGGACACCGTAACGACCGGTTCTCGTAGGTGCGCGTA TGCGGCTATGCTTTTCCTGCT	-10.1
YFL-16	GGTGCGTGTACACGGCTTTGC TTTTCCTGCCTCTGTTCAC	-4.19	2	CAGGCAGGACACCGTAACGGTGCGTGTACACGGCTTTGCT TTTCCTGCCTC	-11.76

Fig. S2 The fluorescence images of enriched aptamers on negative microarrays in every round of the second selection.

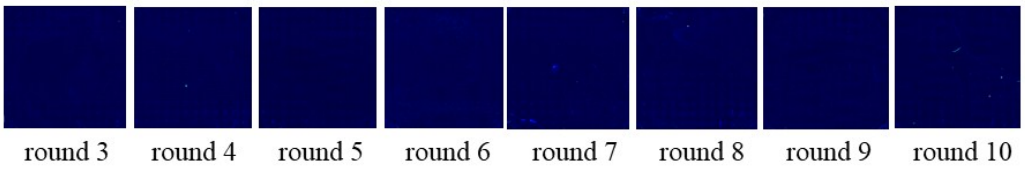

Table S2 The selected aptamers candidates for the second circle selection of Lac.

					Repeat times		
Aptamer-ID	Sequences of N40 from 5' to 3'	ΔG (kcal mol^{-1})	Truncated sequences of library from 5' to 3'	ΔG (kcal mol^{-1})	The sixth round	The seventh round	The eighth round
YFL-1	CGGTGCATCTATGGCTACTAGCTTTTCCTGCCTATACTAC	-2.27	AGGCAGGACACCGTAACCGGTGCATCTATGGCTACTAGCTTTTCCTGCCT	-11.92	2	1	2
YFL-4	ACGGGCTGATGCTCTCTTTATTTTACCTAAATAAAGTGTC	-7.06	GCAGGACACCGTAACACGGGCTGATGCTCTCTTTATTTTACCTAAATAAAGTGTCCTGC	-14.3	2	1	7
YFL-5	CGGGCATTTGCTCTCAATTTAGTCTCAAATTGTGGCCTGC	-5.01	CAGGCAGGACACCGTAACCGGGCATTTGCTCTCAATTTAGTCTCAAATTGTGGCCTGCCTG	-14.04	1	1	2
YFL-6	CGGTGCATCTATGGCTACTAGCTCTTCCTGCCTATACTAC	-2.27	AGGCAGGACACCGTAACCGGTGCATCTATGGCTACTAGCTCTTCCTGCCT	-11.21	0	4	4
YFL-17	GGGCTATGCTCTAAATTCTTCCTACTGACGCAATTTTGGA	-1.17	CCGTAACGGGCTATGCTCTAAATTCTTCCTACTGACGCAATTTTGGACTGCTACCTCCCTCC	-2.66	2	2	1
YFL-7	GGGTGCACACTCTTATTTTTACACGAGCCAAAAATATGTC	-3.53	GCAGGACACCGTAACGGGTGCACACTCTTATTTTTACACGAGCCAAAAATATGTCCTGC	-9.51	2	2	4
YFL-10	ACTGCTTTATCCCCGTCGGCTTGGCTCTTCGACAGTGTGG	-3.33	GCAGGACACCGTAACACTGCTTTATCCCCGTCGGCTTGGCTCTTCGACAGTGTGGCTGCTACC	-6.06	11	5	17
YFL-18	AACAACTTCGTATCCGGTGCATTTATGGCGAATGCTTTTC	-4.71	GCAGGACACCGTAACAACAACTTCGTATCCGGTGCATTTATGGCGAATGCTTTTCCTGC	-7.96	1	3	3
YFL-11	ACTGCTTTATCCCCGTCGGCTTGGCTCTTCGACAGTGTTG	-3.33	GCAGGACACCGTAACACTGCTTTATCCCCGTCGGCTTGGCTCTTCGAC	-5.12	4	3	10
YFL-19	ACTGCTTTATCCCCGTCGGCTTGTCTCTTCGACAGTGTGG	-3.33	GCAGGACACCGTAACACTGCTTTATCCCCGTCGGCTTGTCTCTTCGACAGTGTGGCTGCTACC	-6.06	17	23	43
YFL-14	GGTGCATCTATGGCTTTGCTCTTCCTACCTGTTCTACGAG	-1.61	ACAGGCAGGACACCGTAACGGTGCATCTATGGCTTTGCTCTTCCTACCTGTTCTACGAGCTGCTACCTCCCTCCTC	-8.14	11	10	7
YFL-20	ACTGCTTTATCCCCGTCGGCTTGTCTCTTCGACAGTGTTG	-3.33	GCAGGACACCGTAACACTGCTTTATCCCCGTCGGCTTGTCTCTTCGAC	-5.21	5	5	12
YFL-21	GGGCGCACGCTCTGAATTTTTCATATGAAACAATTCTGTC	-5.97	GCAGGACACCGTAACGGGCGCACGCTCTGAATTTTTCATATGAAACAATTCTGTCCTGC	-11.61	2	4	8
YFL-22	TCGCATCGGTGCATCTATGGCGCACGCTCTTCCTGCCTTC	-4.81	AGGCAGGACACCGTAACTCGCATCGGTGCATCTATGGCGCACGCTCTTCCTGCCT	-10.71	1	0	3

YFL-23	TTCCGGATAATCAGACGATA TATGAGGAATTCTGAGGGTA	-2.05	CCGTAACTTCCGGATAATCAGACGATATATGA GGAATTCTGAGGGTACTGCTACCTCCCTC	-6.44	1	1	2
YFL-24	CTTTCAGGGTGGTGCCGTTT CGGGCTTTGTCTCTTCCTGC	-2.75	CAGGCAGGACACCGTAACCTTTCAGGGTGGTG CCGTTTCGGGCTTTGTCTCTTCCTGCCTG	-11.37	0	1	2
YFL-25	ACTGCTTTATCCCCGTCGGC TTTGCTCTTCGACAGTGTTG	-3.33	GCAGGACACCGTAACACTGCTTTATCCCCGTC GGCTTTGCTCTTCGAC	-5.12	1	1	1
YFL-26	CGGGCTTTAGCTCTAAAAAA TGTCCACCATCTTTTTTGTC	-4.37	GCAGGACACCGTAACCGGGCTTTAGCTCTAAA AAATGTCCACCATCTTTTTTGTCCTGC	-10.7	0	1	2

Fig. S3 The secondary structures of six selected aptamers were simulated with OligoAnalyzer 3.1 at the minimum ΔG. (a) YFL-13, (b) YFL-16, (c) YFL-21, (d) YFL-22, (e) YFL-24, (f) YFL-26.