Aptamers

HIGH
AFFINITY • SPECIFICITY • STABILITY

SMALL LIGAND
(< 30 kD)

VS

Large
(~150 kD)

Antibodies

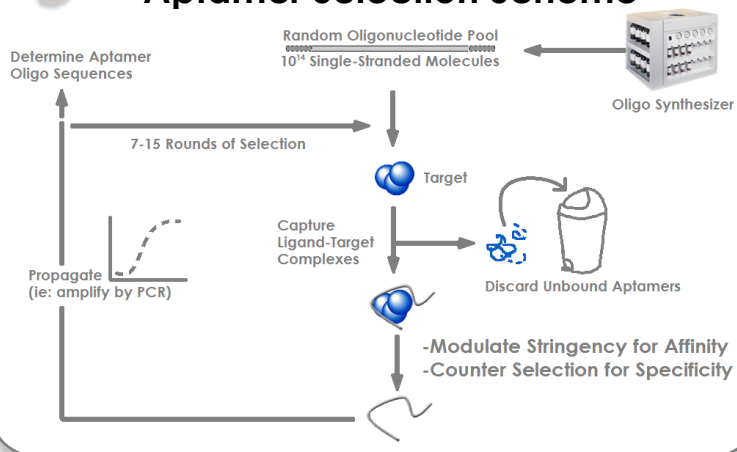
LOWER COST TO PRODUCE
NO BATCH-TO-BATCH VARIATION

WHAT ARE APTAMERS?

Aptamers (synthetic antibodies) are stable ssDNA or RNA ligands that bind with high affinity and specificity to target antigens such as small molecules, peptides, proteins, cells, and tissues. For example, aptamers have been generated that exhibit greater than 10,000-fold binding affinity for theophylline over caffeine, which differ only by a few atoms.

Aptamer products can be used as research reagents, diagnostics, biosensors, and tools for biomarker or drug discovery. Aptamers can also be used for bioindustrial applications and targeted therapeutics.

Aptamer Selection Scheme



Examples of Aptamer Shapes

A. Pseudoknot (ligand for HIV-1 reverse transcriptase)
B. G-quartet (ligand for Thrombin)
C. Hairpin (ligand for bacteriophage for T4 polymerase)
D. Stem loop/bulge (ligand for ATP)

Search the Apta-Index™

for more examples of aptamers

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"Forget Antibodies. Use Aptamers!"™