

Optimer™ reagents: novel solutions driving discovery



Optimers are optimized aptamer molecules that function as an antibody alternative

The benefits of Optimer technology

- **Optimized for you**
Nucleic acid affinity reagents optimized for your target, performance in your end-use application and efficient, cost-effective manufacturability.
- **Flexibility**
From small molecules to cells and tissues, hit a wide range of targets with Optimer reagents that are proven in a variety of assays and applications.
- **Speed-to-market**
Accelerate discovery and development with specific Optimer reagents identified in as little as 4 weeks and offering the simplest scalability.
- **Simple IP and commercialization**
Optimer reagents are unrelated to antibody technology, offering increased freedom to operate in the complex IP landscape.

What is an aptamer?

1



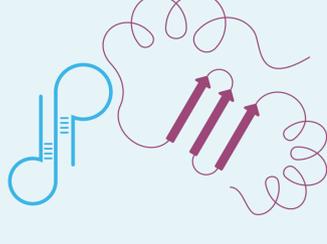
Large libraries (10^{14}) of synthetic nucleic acid sequences are screened. Specific sequences are isolated that bind to the target of interest.

2

Single-stranded DNA and RNA form secondary structures to give a range of complex folds and shapes. The unpaired loop or bulge regions have free groups to interact with other molecules.



3



Aptamers are nucleic acid molecules isolated to bind to a specific target. The different folds and structures adopted by each aptamer depend on the specific aptamer sequence and can:

- increase target specificity
- increase target affinity

4

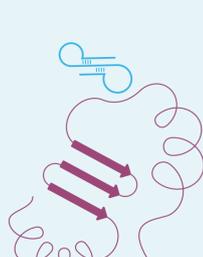
The flexible aptamer backbone enables the formation of structures to bind to large structures or wrap around small targets.

Our automated processes offer three selection platforms, each specifically designed to suit a different target type:

- Small molecules
- Proteins
- Cells and tissues



Small molecule target



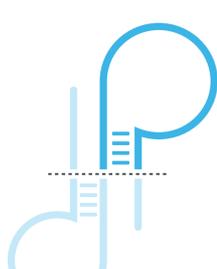
Protein target

Optimers: fully optimised aptamers

Once a target-specific aptamer has been selected it is processed to identify the aptamer with the minimal fragment of the parent aptamer that binds to the target with the desired binding kinetics.

Optimer generation increases:

- Structural stability
- Target affinity
- Synthesis yield
- Cost-efficiency of production
- Tissue penetration
- Access to target epitopes



29 kDa



5 - 18 kDa

Optimers are being used in a range of assays and platforms



Biosensor



Affinity purification



ELISA



Flow / FACS



Therapeutics



IHC



LFD tests

Optimer advantages for research, diagnostics and therapeutics



Cost-effective production



Rapid development in just 4 weeks



Batch-to-batch consistency



Small and stable



Freedom to operate



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