

Optimer[®] binder for SARS-CoV-2 S1 protein

Validated Optimer[®] binders to SARS-CoV-2 Spike protein

Species reactivity	Virus
Target	SARS-CoV-2 S1 Spike protein
Target affinity	10.7 nM
Selectivity	Detects all variants of concern Does not cross-react with plasma components, saliva or nasal matrices
Applications	BLI, biosensors, LFD, ELISA-like assay, affinity chromatography
Optimer [®] size	36 nucleotides

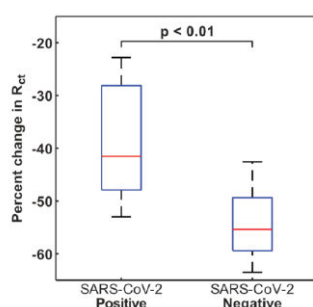
Variant	K _D (nM)
WT	10.7 ± 0.07
Alpha (B.1.1.7)	7.16 ± 0.13
Beta (B.1.351)	5.24 ± 0.09
Gamma (P.1)	15.4 ± 0.14
Delta (1.617.2)	5.68 ± 0.04
Omicron (B.1.529)	10.85 ± 0.09

SARS-CoV-2 S1 Optimer[®] binders detect all known World Health Organisation Variants of Concern. K_D determined by biolayer interferometry.

Target information

SARS-CoV-2 virus is the causative agent of COVID-19. The viral Spike protein consists of two subunits (S1 and S2). The S1 subunit mediates binding to the Angiotensin-Converting Enzyme (ACE2) receptor on the surface of human cells to promote cell penetration and viral infection. The S protein has formed the basis for many of the SARS-CoV-2 vaccines for COVID-19 and acts as a biomarker for infection in COVID-19 patients.

SARS-CoV-2 S1 Optimer[®] is functional in biosensor and lateral flow assays



SARS-CoV-2 Optimer[®]-functionalised biosensor shows accurate and sensitive detection of the virus in clinical samples.



Proof-of-concept Optimer[®] SARS-CoV-2 LFD show detection of inactivated virus in mock nasal matrix.

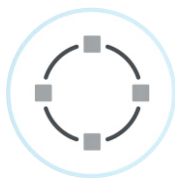
Optimer® binders

Optimer® binders are small oligonucleotide ligands (~15kDa) that bind to target molecules with comparable specificity and affinity to that of antibodies. These synthetic affinity ligands are designed to mimic the molecular recognition characteristics of monoclonal antibodies in different applications.

Intended for research use only. Not to be used for any other purpose, which includes but is not limited to, unauthorized commercial uses, *in vitro* diagnostic uses, *ex vivo* or *in vivo* therapeutic uses or any type of consumption or application to humans or animals.

The Optimer® advantage

Optimer® binders are oligonucleotide ligands that offer several key benefits over traditional protein-based affinity reagents.



Batch consistent
manufacture



Rapid discovery
& development



Animal-free discovery,
development & manufacture



Highly stable with
long shelf life



Security of supply
from defined
Optimer® sequence



Small size for improved
signal:noise & tissue
penetration

Flexible functionalisation for assay compatibility

Optimer® binders can be modified with a wide variety of functional groups for simple platform integration. Please enquire for more information.

For custom modifications specific for your research, or more details about how Optimer® binders can be utilized in your research, please get in touch via email at info@aptamergroup.com.

