

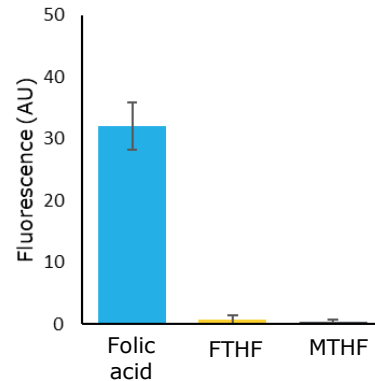
Optimer[®] binder for folic acid



aptamer
GROUP

Validated Optimer[®] binder for the detection & quantification of folic acid

Target	Folic acid
Selectivity	2.2% cross-reactive with 5-formyl-5,6,7,8-tetrahydrofolate. 1.5% cross-reactive with 5-methyltetrahydrofolate.
Applications	ELISA-like assays
Optimer [®] size	86 nucleotides

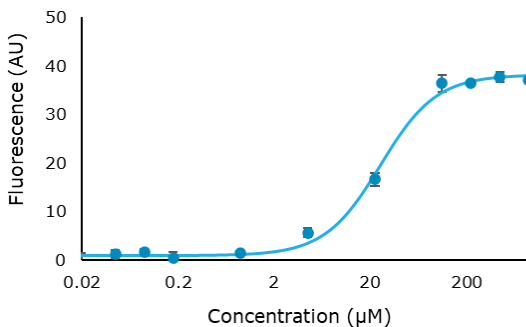


Folic Acid Optimer[®] binders are highly selective as demonstrated using an Optimer[®]-based ELISA-like assay.

Target information

Folic acid is the synthetic parent compound of the folate family. It is an oxidized water-soluble member of the vitamin B complex family that is metabolized to give the active form, tetrahydrofolate (THFA). THFA plays a key role in the synthesis of DNA, RNA, and proteins. Folic acid deficiency is associated with impairment of cell division, accumulation of possibly toxic metabolites such as homocysteine, and impairment of gene methylation reactions, thus increasing neoplastic risks. Folate deficiency can also lead to foetal neural tube defects and megaloblastic anaemia. Supplementation and fortification of foodstuffs with folic acid is common to ensure sufficient intake.

Folic acid Optimer[®] allows sensitive and accurate detection



Optimer[®] concentration curve for folic acid. All samples were tested in triplicate. Error bars show standard deviation from the mean.

Folic acid Optimer[®]

Quantifiable range	LLOQ	0.16 µM
	ULOQ	118 µM
Intra-assay precision	% CV	3.6 – 16.5
Recovery	%	89.5 – 113.3

Assay parameters for ELISA-like assay analysis of folic acid detection show broad dynamic range and good precision

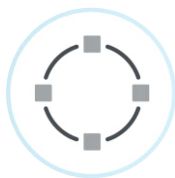
Optimer® binders

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.

