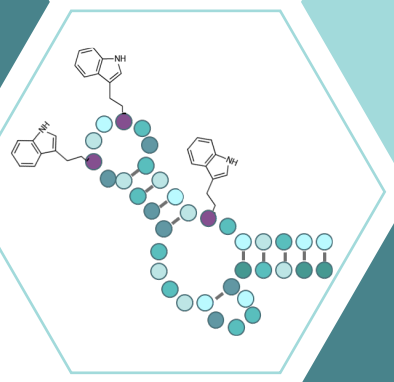
clickmer systems

Part of APIS Assay Technologies



Clickmers® are a powerful tool in a rapidly changing pathogen landscape

Clickmers® are versatile DNA-based binders that have a wide range of applications, from diagnostics to therapeutics. Their fast development makes them powerful tools in the responses against emerging or fast drifting pathogens. High selectivity to their targets allows differentiation, even within proteins from highly similar viral families.

Clickmers are chemically modified aptamers. Based on their sequence and modifications they form three-dimensional structures and thereby adaptively bind to their target molecules with high affinity and specificity. The introduction of side chains/modifications through the Nobel Prize winning 'Click' chemistry provides increased chemical variability and flexibility compared to standard aptamers, which increases the probability of developing an excellent target binder.

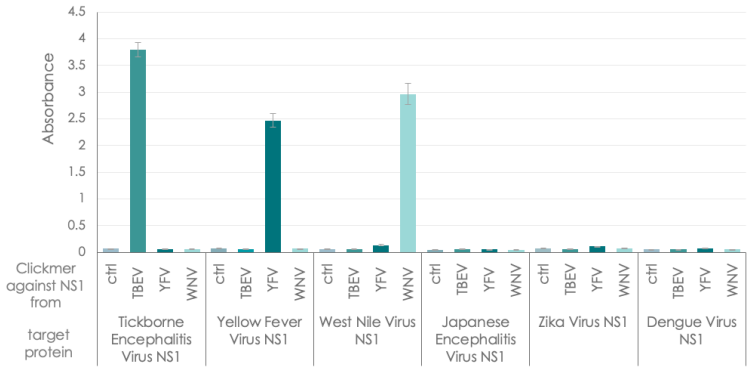


Figure 1. Direct ELONA assay of Clickmers raised against various flavivirus NS1 proteins: Clickmers show excellent specificity despite the high homology (table 1) of NS1 proteins of different flaviviruses

NS1	TBEV	DENV1	JEV	WNV	ZKV	YFV
TBEV	100	38	44	43	43	43
DENV1	38	100	51	51	54	42
JEV	44	51	100	77	57	46
WNV	43	51	77	100	54	44
ZKV	43	54	57	54	100	47
YFV	43	42	46	44	47	100

Table 1. Homology of NS1 within the Flavivirus family (%)

Advantages of Clickmers

- **Rapid discovery process** – can be selected within a few weeks
- **High selectivity** – can differentiate between highly similar targets
- **Excellent stability** – show thermostability and are therefore independent from cold chain
- **Adaptability** – selection process for Clickmers can be adapted to meet your requirements, e.g. by selecting a Clickmer under specific binding conditions

Visit the APIS website for more information

Scan the QR code or visit www.apisassay.com

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How are Clickmers selected?

Our proprietary Click-SELEX is an in vitro evolutionary process of iterative cycles for the selection of Clickmers, which are consequently isolated and enriched through PCR to generate a pool of specific target-binding Clickmers (see below).

A major benefit of the SELEX process is the ability to adapt the selection to meet customer requirements, e.g. by selecting a Clickmer in the presence of complex matrices.

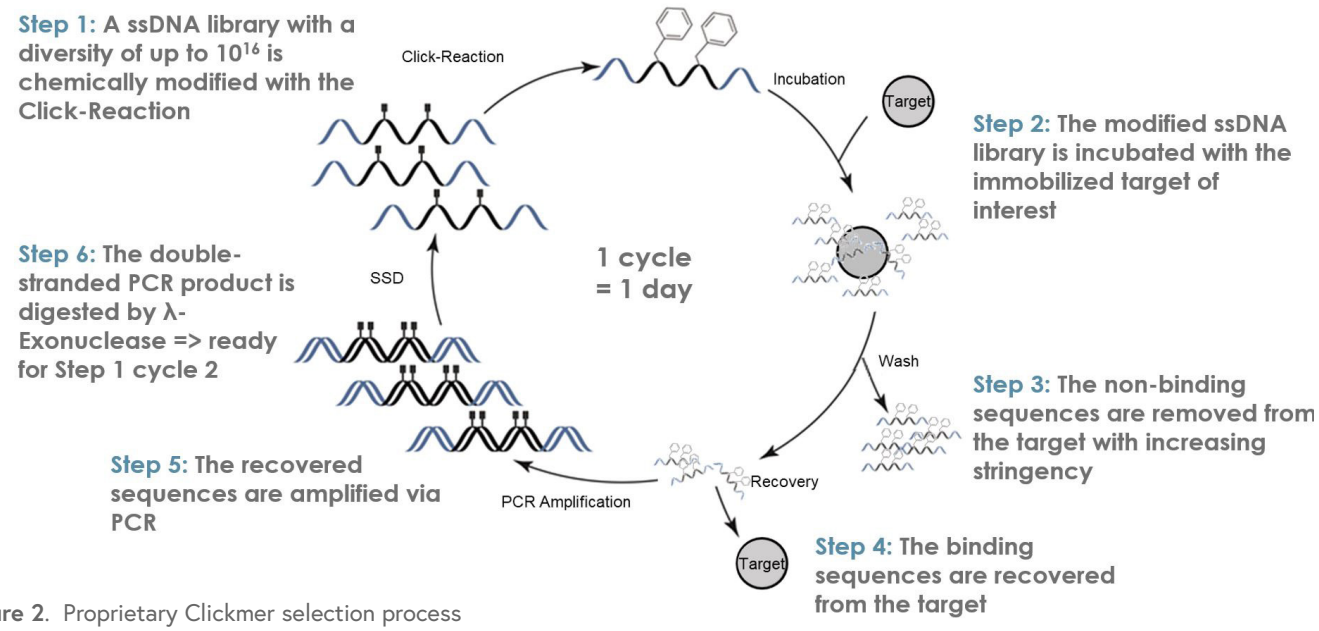

Figure 2. Proprietary Clickmer selection process

Custom Clickmers Development

Clickmer development is available to integrate into our customer's platform or to integrate as part of our Contract Assay Development service.

Our Clickmer Systems Development Service offers a structured milestone-defined development pipeline that is focused on understanding customer requirements and project aims.

Contact one of our experts today, to start the conversation about how you can integrate Clickmers that utilise Nobel Prize-winning 'Click' chemistry into your technology now

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