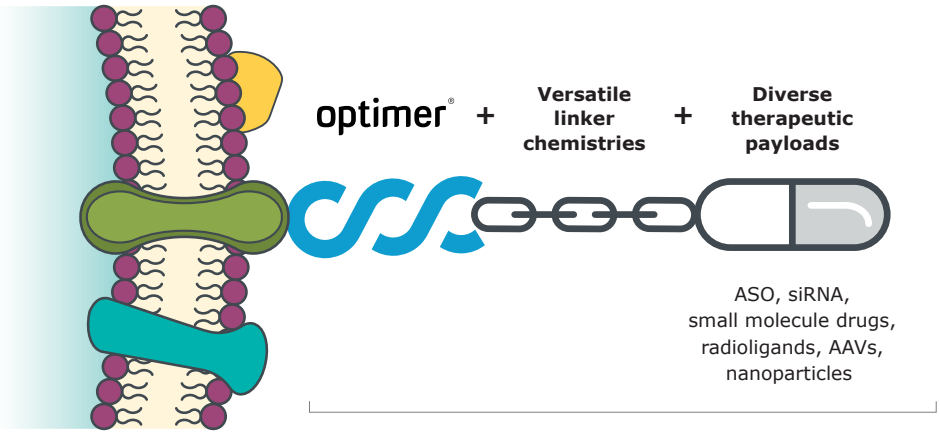
Optimer®-drug conjugates

Optimer delivery vehicles are precision-targeted and tuneable for the successful and improved delivery of diverse therapeutic payloads.

aptamer GROUP

Precision targeting of your payload with Optimer delivery vehicles

Optimer delivery vehicles are engineered to specifically bind your protein target for assured site-specific therapeutic targeting and delivery.



The Optimer advantage

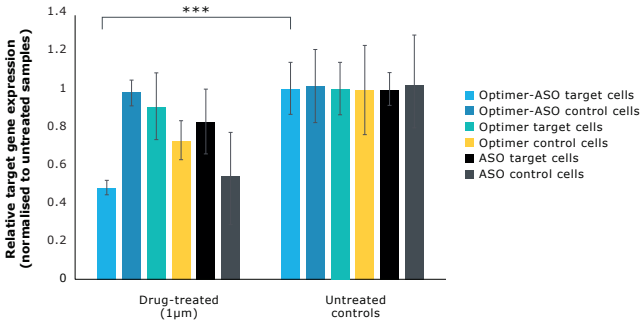
Optimer binders are single stranded nucleic acid molecules that possess a number of significant advantages as delivery vehicles.

Feature	Optimer advantage
Small size	~15 times smaller than antibodies for increased tissue penetration.
Immunogenicity	Limited to no immunogenicity improves therapeutic index.
Highly target specific	*In vitro* selection overcomes reliance on the immune system. Selection with conjugated therapeutic for increased success.
Tuneable half-life	Able to tune for long half-life or 'hit-and-run' strategies as required.
Tuneable target binding	Selection for specific kinetics, internalisation, organelle targeting to improve deliverability.
Simple, consistent modification	Simple, site-specific modifications with a range of linkers offers consistent Optimer-drug ratio.
Scalable, batch consistent production	Manufactured via solid phase synthesis to overcome scalability and batch consistency issues.

Functional delivery vehicles for diverse payloads

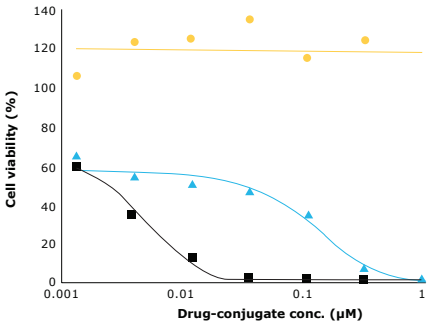
Optimer binders are functional when conjugated to different payloads enabling targeted delivery to your cell or tissue of interest.

Optimer-ASO delivery leads to target transcript knockdown



Treatment with the Optimer-ASO conjugate results in specific knockdown of transcript expression in the targeted cell type. Reduced ASO penetration is seen in off-target cell types when conjugated to the Optimer delivery vehicle.

Optimer-drug delivery leads to reduced cell viability

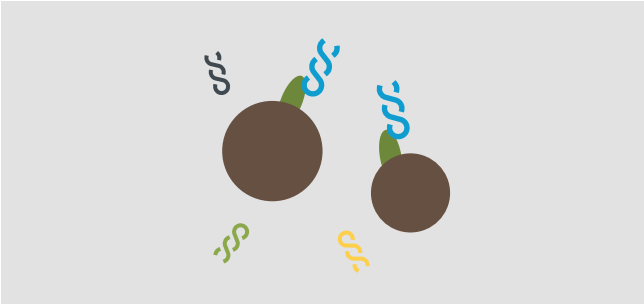


Treatment with Optimer-drug conjugates results in a concentration dependent reduction in cell viability, via luminescent assays. Use of the Optimer vehicle alone shows no effect on cell viability.

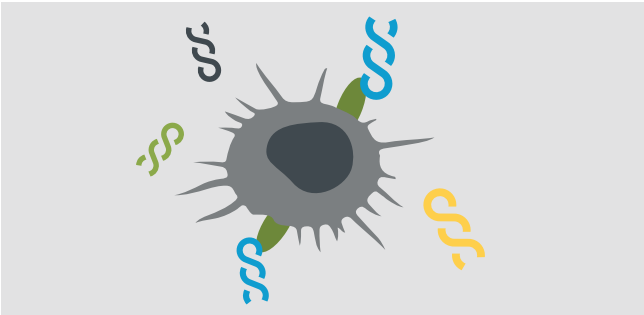
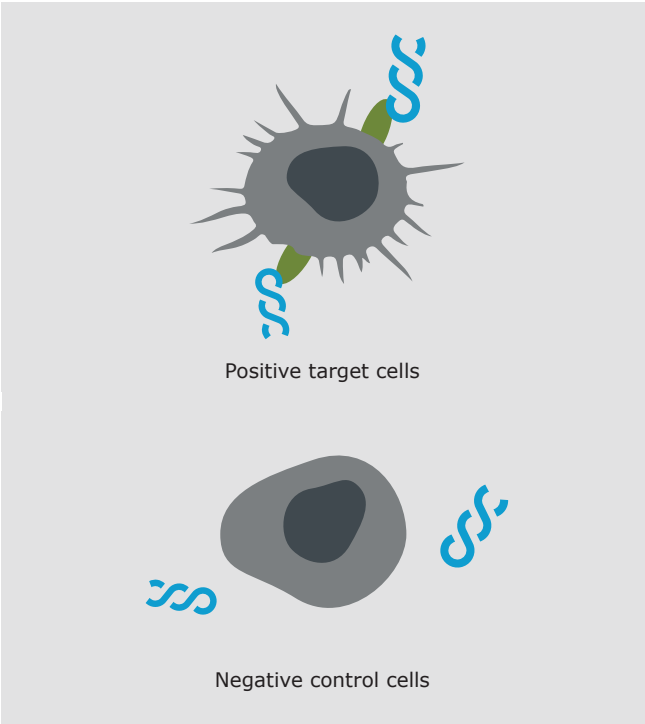
Tailored discovery processes to maximise success

- Develop Optimer ligands to specific biomarkers using our protein discovery process and further validate the function using the cell discovery process.
- If a biomarker is unknown, hypothesis-free discovery can identify Optimers to specific cell phenotypes (eg healthy vs disease) with biomarker ID performed post-discovery.

Protein-targeted discovery



And
Cell-targeted validation



Hypothesis-free discovery