Going viral: Targeting triple-negative breast cancer by mimicking the Dengue virus

Triple-negative (TN) breast cancer is extremely aggressive and patients have a relatively poor prognosis.

Viruses like Dengue exhibit viable features for a targeted response.

Virus-mimicking nanoparticles with phosphorylcholine-based surface ligands could be used for selective targeting therapies if they are recognised as ‘food’ by receptors on the surface of the cancer cells.

So, how can this help?

Dengue virus-mimicking nanoparticles enable selective targeting of TN breast cancer cells!

Polymerisation-induced self-assembly

pH-responsive structural changes

Selective cell targeting
Enhanced cell uptake
Efficient gene transfer

Synthesis of triblock copolymer vesicles

PGMA
Phosphorylcholine group

PHPMA
PDPA

Plasmid DNA

Normal cells
TN breast cancer cells