

Gator[®] Anti-PEG Probe for Analysis of PEGylated LNPs and Liposomes

Gator[®] Anti-PEG probes are coated with Anti-PEG antibodies to capture Polyethylene Glycol (PEG) conjugated lipid-based drug carriers. These include PEGylated lipid nano particles (LNPs) and liposomes. PEGylation of lipids is done to prolong the biological half-life and reduce toxicity of LNPs and lipid-based drug carriers. The Anti-PEG probe is useful for quantitation and binding studies of PEGylated LNPs. Its applications include quantitation of LNPs and liposomes in buffers and biological matrices like serum, and analysis of LNP binding to serum proteins and receptors.

PRODUCT INFORMATION

Part Number

160034

Includes

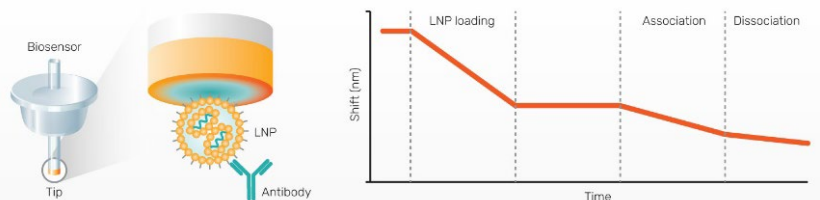
Anti-PEG Probes (96 probes/tray)

KEY BENEFITS

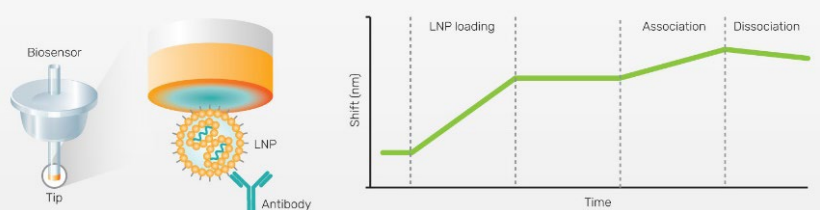
- Enable LNP - proteins / receptors binding studies.
- Easy quantitation of PEGylated LNPs and liposomes.
- Compatible with biological matrices like serum.
- No signal inversion commonly seen in traditional BLI on loading large biomolecules.

OVERCOMING SIGNAL INVERSION

Traditional BLI

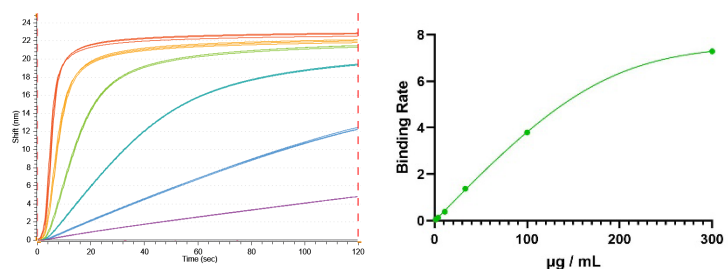


Gator BLI - Positive signal



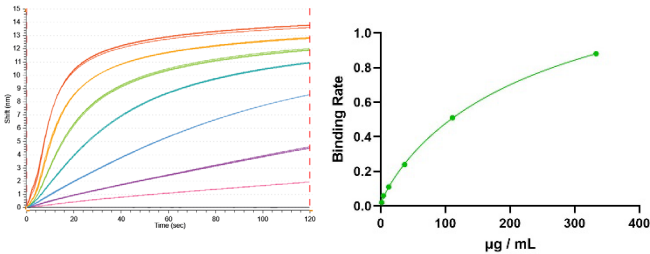
Gator's Anti-PEG probes allow analysis of PEGylated LNPs without the signal inversion observed in traditional BLI. This is due to innovative optical layer and novel surface chemistry.

QUANTITATION OF PEGYLATED LNPs



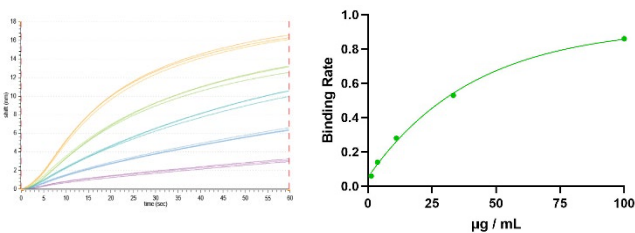
Binding curves and standard curve for PEGylated LNPs (1 µg/mL to 300 µg/mL in PBS+0.2% BSA).

QUANTITATION OF PEGYLATED LIPOSOMES



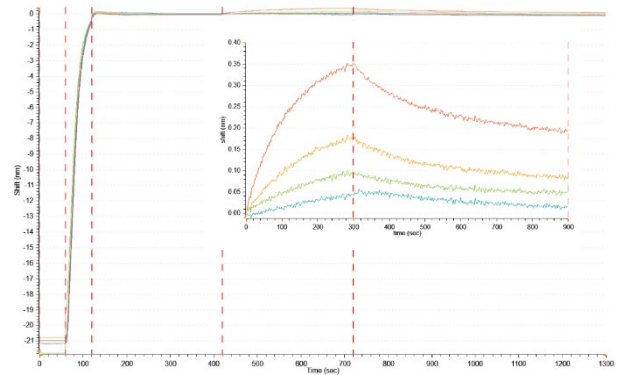
Binding curves and standard curve for PEGylated liposomes (1 µg/mL to 300 µg/mL in PBS + 0.2% BSA).

ANTI-PEG PROBE COMPATIBILITY WITH SERUM



Binding curves and standard curve for PEGylated LNPs in serum diluted 1:10 with PBS + 0.2% BSA. Compatibility of Anti-PEG probe with serum can aid in measuring the circulating concentration of Lipid based drug carriers in the bloodstream using serum samples. LNP concentration ranges from 1-100 µg/mL.

BINDING KINETICS OF PEGYLATED LNP TO APOLIPOPROTEIN E (Apo-E)



Binding between PEGylated LNP and Apo-E. LNP was loaded at 20 µg/mL. Positive signal is observed for LNP loading and subsequent Apo-E association. Sensorgram shows association between 2.5, 5, 10 and 20 nM of Apo-E for 300 sec followed by dissociation for 900 sec.

SUMMARY

Anti-PEG probe is a tool for the analysis of PEGylated LNPs and other lipid-based drug carriers. The probe is capable of:

- Quantitation of PEGylated LNPs and liposomes.
- Binding studies between LNPs or liposomes and serum proteins and/or receptors.
- Evaluation of Lipid based drug carrier concentration in serum samples.
- Screening serum samples for presence of anti-PEG antibodies.

