

Oligonucleotides

Oligonucleotides are DNA or RNA polymers that are used for research, gene therapeutic drugs and probes for detecting DNA or RNA for molecular diagnostics and forensics uses.

Lipid conjugated oligos

Oligonucleotides, including antisense oligonucleotides and siRNA, are promising therapeutic agents against a variety of diseases. Effective delivery of these molecules is critical in view of their clinical application. Neutral lipid-oligonucleotide conjugates have become a subject of considerable interest to improve the safe delivery of oligonucleotides. These molecules have been chemically conjugated to hydrophobic moieties such as cholesterol, squalene, or fatty acids to enhance their pharmacokinetic behavior and trans-membrane delivery.

Reverse Phase Chromatography will work better than Anion Ion Exchange Chromatography with Lipid conjugated oligonucleotides because their increased hydrophobicity.

DuPont™ AmberChrom™ XT20 and **AmberChrom™ XT30** are optimal media to be used for the purification of oligonucleotides because they can not only afford the higher pH resulting from the cleavage of oligonucleotide from the solid support with ammonium hydroxide, but they allow a better resolution leading to higher purity levels.

PEGylated Aptamers

Aptamers are artificial oligonucleotides that specifically bind to target molecules with a high affinity. Consequently, they can inhibit the binding of a protein to its receptor, similar to therapeutic neutralizing antibodies. Pegylation, which is the covalent attachment of polyethylene glycol (PEG) $[\text{HO}(\text{CH}_2\text{OCH}_2)_n\text{OH}]$ chains to the Aptamers is used to improve their pharmacokinetic properties and to improve their stability in vivo.

AmberChrom™ XT30 is suitable for the desalting step of Pegylated Aptamers.

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