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Pbi-shRNA STMN1 Lipoplex

National Cancer Institute

Source

National Cancer Institute. *pbi-shRNA STMN1 Lipoplex*. NCI Thesaurus. Code C99639.

A proprietary RNA interference construct consisting of bifunctional short hairpin RNAs (shRNA) against human stathmin 1 (STMN1) encapsulated in the cationic bilamellar invaginated vesicle lipoplex (LP) with potential antineoplastic activity. pbi-shRNA STMN1 LP contains 2 stem-loop structures encoded by a plasmid vector. Upon intratumoral administration, one shRNA unit with a perfectly matched sequence renders the suppression of STMN1 mRNA translation (mRNA sequestration and cleavage-independent degradation) while the other unit with an imperfectly matched sequence renders STMN1 mRNA degradation via RNase H-like cleavage (cleavage-dependent mRNA silencing). The suppression of STMN1 expression in tumor cells result in a reduction of tumor cell proliferation. STMN1, a ubiquitous cytosolic phosphoprotein and tubulin modulator that plays a key role in mitosis, is overexpressed in a variety of tumors and correlates with poor prognosis.