

Product Data Sheet

Product Name: HA2 peptide

Cat. No.: GC79142

Chemical Properties

Cas. No. 117138-19-9

Formula $C_{116}H_{158}N_{26}O_{32}S$

M.Wt 2460.72

Solubility DMSO: 10 mg/mL (4.06 mM; Need ultrasonic) Storage Sealed storage, away from moisture

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Background

HA2 peptide is a potent pH-responsive fusion peptide derived from hemagglutinin (HA), corresponding to the N-terminal fusion peptide domain consisting of 23 amino acid residues of HIV-1

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

gp41 envelope glycoprotein. HA2 peptide adopts a random coil structure under physiological pH conditions; in acidic endosomes, protonation of carboxyl groups reduces negative charge, inducing a transition to an α -helical conformation that can fuse with and destabilize the endosomal membrane. After binding to membranes, the N-terminal and middle regions of HA2 peptide mainly adopt a β -strand conformation, while the C-terminal region remains unstructured. HA2 peptide induces lipid mixing and promotes aqueous content leakage from large unilamellar vesicles whose lipid composition matches that of HIV-1 viruses and target T cells. HA2 peptide is anionic and can bind to cationic peptides to achieve siRNA condensation. HA2 peptide can be used in studies related to cancer and human immunodeficiency virus (HIV) infection [1] [2].

In Vitro, HA2 peptide undergoes a pH-dependent conformational shift from a random coil at neutral pH to an α -helical structure at acidic pH, enabling endosomal membrane fusion and destabilization^[1]. HA2 peptide, when conjugated to cationic peptides or cationic GFP, enables siRNA delivery to a broad range of cancer cells by facilitating endosomal escape via pH-dependent conformational change and membrane destabilization^[1].

References:

- [1]. Tai W, et al. Functional peptides for siRNA delivery. Advanced drug delivery reviews. 2017 Feb;110-111:157-168.
- [2]. Yang J, et al. Solid-state nuclear magnetic resonance evidence for an extended beta strand conformation of the membrane-bound HIV-1 fusion peptide. Biochemistry. 2001 Jul 10;40(27):8126-37.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA