

WL47

Chemical Properties

CAS No. :

Formula:

Molecular Weight:

Keep away from moisture

Storage:

Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.

Biological Description

Description	WL47 is a high-affinity ligand for caveolin-1 (CAV1) with a dissociation constant (Kd) of 23 nM, demonstrating potent disruption of CAV1 oligomers. This compound exhibits selectivity for CAV1, with minimal interaction towards BSA, casein, and HEWL. Notably, WL47's molecular structure is 80% smaller than its T20 parent sequence, rendering it a useful tool for investigating caveolin-1 function [1].
In vitro	Caveolin-1 (CAV) is a 22 kDa monotopic membrane protein that spans a single leaflet of the lipid bilayer with both the N- and C-termini facing the cytoplasmic side. Oligomerization of CAV forms high molecular weight complexes, inducing membrane curvature to create 50-100 nm invaginations called caveolae. The peptide T20, a 36-amino acid fragment derived from HIV gp41, inhibits viral fusion with CD4+ T-cells. WL47, which is 80% shorter, exhibits a 7500-fold higher affinity than T20. In vitro studies show WL47's interaction with CAV oligomers and provide a method to quantify oligomerization. Using a CAV variant (CAV(FLV)) that spontaneously forms CAV nanoparticles, WL47 effectively deoligomerizes these structures, contingent on the absence of a reducing agent, indicating the necessity of disulfide bond-mediated dimerization for its activity.

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