

WL47 TFA

Cat. No.:	HY-P2288A	
Molecular Formula:	C ₈₂ H ₁₃₁ N ₂₄ F ₃ O ₂₉ S ₄	
Molecular Weight:	1942.32	
Sequence:	Lys-Leu-Arg-Met-Trp-Ser-Cys-Cys-Ser-Trp-Met-Arg-Leu-Lys	KLRMWSCCSWMRLK (TFA salt)
Sequence Shortening:	KLRMWSCCSWMRLK	
Target:	Others	
Pathway:	Others	
Storage:	Sealed storage, away from moisture and light	
	Powder	-80°C 2 years
		-20°C 1 year
	* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)	

SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (25.74 mM; Need ultrasonic)
 H₂O : 33.33 mg/mL (17.16 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	0.5148 mL	2.5742 mL	5.1485 mL
	5 mM	0.1030 mL	0.5148 mL	1.0297 mL
	10 mM	0.0515 mL	0.2574 mL	0.5148 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.5 mg/mL (1.29 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: 2.5 mg/mL (1.29 mM); Suspended solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (1.29 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

WL47 TFA, a high-affinity cavolin-1 (CAV1) ligand ($K_d=23$ nM), is a potent disrupter of CAV1 oligomers. WL47 TFA shows selectivity for CAV1 over BSA, casein and HEWL. WL47 TFA is 80% smaller in length than the original T20 (HY-P0052) parent sequence and can be used for the study of caveolin-1 function^[1].

IC ₅₀ & Target	Kd: 23 nM (cavolin-1) ^[1]
In Vitro	<p>Caveolin-1 (CAV) is a monotonic membrane protein, 22 kDa, it penetrates only one leaflet of the lipid bilayer, and both the N- and C-termini remain on the cytoplasmic side. Multiple copies of CAV oligomerize can form high molecular weight complexes that bend the membrane inward to form invaginations, termed “caveolae,” of 50-100 nm in diameter. T20 is a 36 amino acid peptide derived from gp41 and blocks HIV viral fusion with CD4⁺ T-cells. WL47 is 80% smaller in length and has 7500-fold greater affinity than the original T20 parent sequence.</p> <p>In vitro, Demonstrating WL47 activity with CAV oligomers and a method for measuring the degree of oligomerization. A variant of CAV (CAV(FLV)) that spontaneously oligomerizes to form CAV nanoparticles with diameters is used to examine deoligomerization by WL47. WL47 effectively disrupts these nanoparticles, but it does not disrupt oligomerization in the presence of a reducing agent, this demonstrating that WL47 function requires dimerization by disulfide bond</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

CUSTOMER VALIDATION

- ACS Nano. 2024 Feb 12.

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REFERENCES

[1]. Amanda J H Gilliam, et al. Affinity-Guided Design of Caveolin-1 Ligands for Deoligomerization. J Med Chem. 2016 Apr 28;59(8):4019-25.

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

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