LXW7 TFA

Cat. No.: HY-P0178A

Molecular Formula: $C_{31}H_{49}F_3N_{12}O_{14}S_2$

Molecular Weight: 934.92

Sequence: Cys-Gly-Arg-Gly-Asp-Asp-Val-Cys-NH2 (Disulfide bridge:Cys1-Cys8)

Sequence Shortening: CGRGDDVC-NH2 (Disulfide bridge:Cys1-Cys8)

Target: Integrin

Pathway: Cytoskeleton

Storage: Sealed storage, away from moisture

Powder	-80°C	2 years
	-20°C	1 year

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)

BIOLOGICAL ACTIVITY

Description	LXW7 TFA, a cyclic peptide containing Arg-Gly-Asp (RGD), is an integrin αvβ3 inhibitor. LXW7 has a high binding affinity to αv β3 integrin with an IC_{50} of 0.68 μM. LXW7 TFA increases phosphorylation of VEGFR-2 and activation of ERK1/2. Anti-inflammatory effect[1][2][3].
IC_{50} & Target	IC50: 0.68 μM (αvβ3 integrin)[1]
In Vitro	LXW7 specially binds to αvβ3 integrin (K_d=76±10 nM). LXW7 binds strongly to αvβ3-K562 cells, weakly to αvβ5-K562 cells and αIIbβ3-K562 cells, and no binding to K562 cells. LXW7 has great potential as a highly efficient peptide ligand for targeted imaging and drug delivery[1]. LXW7 acts as a potent and specific endothelial progenitor cells (EPCs) and endothelial cells (ECs) targeting ligand[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	LXW7 (100 μg/kg; intravenous injection) significantly lowers infarct volumes and brain water content (BWC) LXW7-treated rats. The LXW7 treatment lowers the expression of pro-inflammatory cytokines[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male Sprague-Dawley rats (250-280 g) subjected to middle cerebral artery occlusion (MCAO)[3]
Dosage:	100 μg/kg
Administration:	Intravenous injection
Result:	Infarct volumes and BWC were significantly lower compared to those in the MCAO+PBS (control) group.

REFERENCES

[1]. Xiao W, et al. The use of one-bead one-compound combinatorial library technology to discover high-affinity αvβ3 integrin and cancer targeting arginine-glycine-

aspartic acid ligands with a built-in handle. Mol Cancer Ther. 2010 Oct;9(10):2714-23.

[2]. Fang T, et al. LXW7 ameliorates focal cerebral ischemia injury and attenuates inflammatory responses in activated microglia in rats. Braz J Med Biol Res. 2016 Aug 1;49(9):e5287.

[3]. Hao D, et al. Discovery and Characterization of a Potent and Specific Peptide Ligand Targeting Endothelial Progenitor Cells and Endothelial Cells for Tissue Regeneration. ACS Chem Biol. 2017 Apr 21;12(4):1075-1086.

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