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Lieferung & Zahlungsart

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Protease-Activated Receptor-2, amide

Cat. No.: HY-P0283

CAS No.: 190383-13-2

Molecular Formula: $C_{28}H_{54}N_8O_7$

Molecular Weight: 615

Sequence: Ser-Leu-Ile-Gly-Lys-Val-NH2

Sequence Shortening: SLIGKV-NH2

Target: Protease Activated Receptor (PAR)

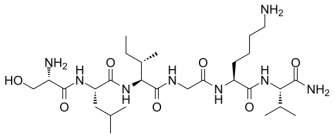
Pathway: GPCR/G Protein

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)



SOLVENT & SOLUBILITY

In Vitro

H_2O : 33.33 mg/mL (54.20 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	1.6260 mL	8.1301 mL	16.2602 mL
5 mM	0.3252 mL	1.6260 mL	3.2520 mL
10 mM	0.1626 mL	0.8130 mL	1.6260 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 100 mg/mL (162.60 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Protease-Activated Receptor-2, amide (SLIGKV-NH_2) is a highly potent protease-activated receptor-2 (PAR2) activating peptide.

IC_{50} & Target

PAR2[1]

In Vitro

The PAR2-activating peptides used are: SLIGKV-OH, SLIGRL-OH, SLIGKV-NH_2, SLIGRL-NH_2. The synthetic agonist peptides mimicking the tethered ligand of PAR2, Ser-Leu-Ile-Gly-Lys-Val (SLIGKV-OH), Ser-Leu-Ile-Gly-Arg-Leu (SLIGRL-OH) and their amidated forms Ser-Leu-Ile-Gly-Lys-Val-amide (SLIGKV-NH_2) Ser-Leu-Ile-Gly-Arg-Leu-amide (SLIGRL-NH_2) have also been demonstrated being able to activate the receptor without enzymatic cleavage, therefore, have been utilised as biological tools to examine physiological functions of PAR2. Protease-Activated Receptor-2, amide is one of a four family subgroup of

G-protein-coupled receptors (GPCRs), called PARs. Protease-activated receptors are distinguished from other GPCRs through their unique proteolytic mechanism of activation. For PAR2, activating proteases, such as trypsin, tryptase and coagulation factors VIIa and Xa, cleave a specific extracellular amino-terminal domain of the receptor to reveal a "tethered ligand", SLIGKV- and SLIGRL- for human and mouse/rat PAR2, respectively, which subsequently interacts with the activation domain of the receptor, initiating intracellular signaling pathways[1]. The protease-activated receptor-2 (PAR2) has been implicated in the pathogenesis of several inflammatory and autoimmune disorders, and is expressed in a wide variety of human tissues and cells. PAR2 belongs to a family of seven transmembrane domain receptor proteins that are activated by proteolysis. Enzymatic digestion exposes an N-terminus ligand sequence that binds intramolecularly to the activation site on the extracellular loop II, initiating a G-protein-mediated cell-signalling cascade and nuclear factor-kappa B (NF-κB)-regulated gene transcription[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Biochem Biophys Res Commun. 2021 Mar 18;552:150-156.

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REFERENCES

[1]. Kanke T, et al. Binding of a highly potent protease-activated receptor-2 (PAR2) activating peptide, [3H]2-furoyl-LIGRL-NH2, to human PAR2. Br J Pharmacol. 2005 May;145(2):255-63.

[2]. Ramelli G, et al. Protease-activated receptor 2 signalling promotes dendritic cell antigen transport and T-cellactivation in vivo. Immunology. 2010 Jan;129(1):20-7.

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