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DATASHEET

SLIGRL-NH2

Product overview

Name	SLIGRL-NH2
Cat No	HB2920
Biological description	**Overview**

SLIGRL-NH2 is a PAR_2 peptide agonist which is specific for activation of PAR_2 over PAR_1 and PAR_4 (EC_{50} = 0.5-2.0µM).

The peptide is derived from the N-terminus of the rat PAR_2 receptor sequence.

Uses

SLIGRL-NH2 is an itch-inducing agent which is commonly used to study histamine-independent itch. It evokes dose dependent scratching behaviour in mice. Interestingly, in pruritogen-responsive neurons that transmit the itch signal induced by SLIGRL-NH2, sex-related differences may exist.

The peptide has also been shown to enhance gastrointestinal transit in mice and rats

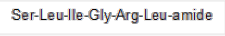
Active *in vivo*.

Biological action	Agonist
Purity	>95%
Description	PAR_2 peptide agonist

Solubility & Handling

Storage instructions	-20°C
Solubility overview	Soluble in water (1 mg/ml)
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use

Chemical Data

Chemical name	SLIGRL (modifications: C-terminal amide)
Molecular Weight	656.82
Chemical structure	
Molecular Formula	$C_{29}H_{56}N_{10}O_7$
Sequence (one letter)	SLIGRL
Modifications	C-terminal amide
CAS Number	171436-38-7
PubChem identifier	9831050
SMILES	CC[C@H](C)[C@@H](C(=O)NCC(=O)N[C@@H](CCCN=C(N)N)C(=O)N[C@@H](CC(C)C)C(=O)N)NC(=O)[C@H](CC(C)C)NC(=O)[C@H](CO)N
InChiKey	SGPMJRPYYIJZPC-JYAZKYGWSA-N
MDL number	MFCD03093421

References

Protease-activated receptor-1 (PAR1) and PAR2 but not PAR4 mediate relaxations in lower esophageal sphincter.

Huang et al (2007) Regul Pept. 142(1-2)
PubMedID 17335921

The protease-activated receptor-2-specific agonists 2-aminothiazol-4-yl-LIGRL-NH2 and 6-aminonicotinyl-LIGRL-NH2 stimulate multiple signaling pathways to induce physiological responses in vitro and in vivo.

Flynn et al (2011) J Biol Chem 286(21)
PubMedID 21467041

The distinct roles of two GPCRs, MrgprC11 and PAR2, in itch and hyperalgesia.

Liu et al (2011) Sci Signal. 4(181)
PubMedID 21775281

Sex-related differences in SLIGRL-induced pruritus in mice.

Yamaura et al (2014) Life Sci. 94(1)
PubMedID 24239643

Therapeutic effect of protease-activated receptor 2 agonist SLIGRL-NH2 on loperamide-induced Sprague-Dawley rat constipation model and the related mechanism.

Zhang et al (30122898) Drug Des Devel Ther. 12