Peptide 401

Cat. No.: HY-12537

CAS No.: 32908-73-9

Molecular Formula: $C_{110}H_{192}N_{40}O_{24}S_4$

Molecular Weight: 2587.22

IKCNCKRHVIKPHICRKICGKN-NH_2 (Disulfide bridge: Cys3-Cys15, Cys5-Cys19)

Sequence: Ile-Lys-Cys-Asn-Cys-Lys-Arg-His-Val-Ile-Lys-Pro-His-Ile-Cys-Arg-Lys-Ile-Cys-Gly-Lys-As n-NH2 (Disulfide bridge: Cys3-Cys15, Cys5-Cys19)

Sequence Shortening: IKCNCKRHVIKPHICRKICGKN-NH2 (Disulfide bridge: Cys3-Cys15, Cys5-Cys19)

Target: Histamine Receptor; 5-HT Receptor

Pathway: GPCR/G Protein; Immunology/Inflammation; Neuronal Signaling

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 : 50 mg/mL (19.33 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	0.3865 mL	1.9326 mL	3.8652 mL
	5 mM	0.0773 mL	0.3865 mL	0.7730 mL
	10 mM	0.0387 mL	0.1933 mL	0.3865 mL

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

BIOLOGICAL ACTIVITY

Description Peptide 401, a potent mast cell degranulating factor from bee venom, suppresses the increased vascular permeability due to intradermal injection of various smooth muscle spasmogens (histamine, and 5-HT).

IC_{50} & Target	serotonin	Histamine Receptor

In Vivo Peptide 401 substantially inhibits the oedema provoked by subplantar injection of carrageenin or intra-articular injection of turpentine in the rat. The ED_{50} of 401 is c. 0.1 mg/kg. The anti-inflammatory effect is assessed by measurement of the increased ^{125}I-albumin content of an injected site in comparison with an uninjected contralateral site. Peptide 401 also suppresses the increased vascular permeability due to intradermal injection of various smooth muscle spasmogens (histamine, bradykinin, 5-hydroxytryptamine (5-HT), and prostaglandins)[1]. Peptide 401 (MCD peptide) contains 22 residues and occurs in the venom of the common European honey bee to the extent of about 2% by weight . It has powerful anti-

inflammatory activity (at doses as low as 0.1 mg/kg) in a variety of animal models, i.e., hind paw oedema in the rat induced by carrageenin or turpentine, adjuvant arthritis in the rat, and increased skin permeability in the rat resulting from subcutaneous injection of bradykinin, prostaglandin E1 kallikrein, histamine and 5- hydroxytryptamine (5-HT). It has a powerful degranulating effect on mast cells and involves the release of histamine and other pharmacologically active agents [2].

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

REFERENCES

[1]. Hanson JM, et al. Anti-inflammatory property of 401 (MCD-peptide), a peptide from the venom of the bee Apis mellifera (L.). Br J Pharmacol. 1974 Mar;50(3):383-92.

[2]. Banks BE, et al. Anti-inflammatory activity of bee venom peptide 401 (mast cell degranulating peptide) andcompound 48/80 results from mast cell degranulation in vivo. Br J Pharmacol. 1990 Feb;99(2):350-4.

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