Product Data Sheet

Chemical Properties

Product Name: Spinorphin

Cas No.: 137201-62-8

M.Wt: 877.05

Formula: C45H64N8O10

Chemical Name: 2-(2-(1-(2-(2-(2-amino-4-methylpentanamido)-3-methylbutanamido)-3-methylbutanamido)-3-(4-hydroxyphenyl)propanoyl)pyrrolidin-2-carboxamido)-3-(1H-indol-3-yl)propanamido)-3-hydroxybutanoic acid

Canonical SMILES: CC(C)CC(C(=O)NC(C(C)C(=O)NC(C(C)C(=O)NC(CC1=CC=C(C=C1)O)C(=O)N2CCCC2C(=O)NC(CC3=CNC4=CC=CC=C43)C(=O)NC(C(C)O)C(=O)O)N

Solubility: Soluble to 1 mg/ml in sterile water

Storage: Desiccate at -20°C

General tips: For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shopping Condition: Evaluation sample solution: ship with blue ice
All other available size: ship with RT, or blue ice upon request

Biological Activity

Targets: Proteases

Pathways: ACE

Description: Spinorphin is an endogenous inhibitor of enkephalin-degrading enzymes (aminopeptidase,
dipeptidyl aminopeptidase III, angiotensin-converting enzyme and enkephalinase) [1]. Also, it is a potent antagonist of human P2X3 receptor and the N-formylpeptide receptor subtype FPR with IC50 value of 8.3 pM for P2X3 receptor[2][3]. Enkephalin degrading enzymes are a series of enzymes that hydrolyze enkephalins, which play an important role in management of blood pressure, pain, hypertension and cardiovascular diseases.

In human embryonic kidney (HEK) 293 cells transfected with mouse FPR, spinorphin induced a typical rise in the intracellular Ca2+ concentration with EC50 of 128 μM. Also, in normal mouse neutrophils, Spinorphin induced calcium flux in a dose-dependent way. While the neutrophils from mice deficient in the fMLF receptor subtype FPR didn’t response [3]. In mice, intrathecal administration of spinorphin inhibited the allodynia induced by intrathecal nociceptin in a dose-dependent way. Furthermore, spinorphin enhanced the inhibitory effect of enkephalin on allodynia induced by nociceptin [4].

Reference:

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.