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# **DATASHEET**

Substance P

## **Product overview**

NameSubstance PCat NoHB2915Biological descriptionOverview

Substance P is an 11 amino acid neuropeptide member of the tachykinin peptide family and is found in high quantities in the CNS. It preferentially activates the neurokinin-1 receptor (NK1R).

Uses and applications

It is secreted by neurons, acts as a neurotransmitter and is involved in many biological processes such as nociception and inflammation. It is also essential in gut motility.

Substance P also stimulates and modulates cytokine release in various cell types.

Alternative names SP
Biological action Peptide
Purity >95%

**Description** Sensory neuropeptide

# **Solubility & Handling**

Storage instructions -20°C

**Solubility overview** Soluble in water (0.8 mg/ml)

Storage of solutions Prepare and use solutions on the same day if possible. Store solutions at -20 °C for up to one month if

storage is required. Equilibrate to RT and ensure the solution is precipitate free before use.

**Shipping Conditions** Stable for ambient temperature shipping. Follow storage instructions on receipt.

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 RPKPQQFFGLM (modifications: C-terminal amide)

 $\begin{tabular}{lll} Molecular Weight & 1347.65 \\ Chemical structure & $$^{Ap Pot 2 y p Pot Glis Glis }$\\ Molecular Formula & $C_{63} H_{98} N_{18} O_{13} S$\\ Sequence (one letter) & RPKPQQFFGLM \\ \end{tabular}$ 

Sequence (three letter) H-Arg-Pro-Lys-Pro-Gln-Phe-Phe-Gly-Leu-Met-NH2

**Modifications** Met-11 = C-terminal amide

CAS Number 33507-63-0 PubChem identifier 36511

O)[C@H](CC2=CC=CC)NC(=O)[C@H](CCC(=O)N)NC(=O)[C@H](CCC(=O)N)NC(=O)[C@@H]

3CCCN3C(=O)[C@H](CCCCN)NC(=O)[C@@H]4CCCN4C(=O)[C@H](CCCN=C(N)N)N

InChiKey ADNPLDHMAVUMIW-CUZNLEPHSA-N

Protein length 11

# Substance P and pain chronicity

Zieglgänsberger W (2019) Cell Tissue Res 375(1) **PubMedID** 30284083

#### Substance P and the Neurokinin-1 Receptor: The New CRF

Schank JR *et al* (2017) Int Rev Neurobiol 136 **PubMedID** 29056150

#### Neuropeptide substance P and the immune response

Mashaghi A et al (4249-4264) Cell Mol Life Sci Cell Mol Life Sci

 Species
 27314883

 PubMedID
 2016

# The Therapeutic Potential of Targeting Substance P/NK-1R Interactions in Inflammatory CNS Disorders

Johnson MB *et al* (2016) Front Cell Neurosci 10 **PubMedID** 28101005