

Data Sheet

Product Name:	Substance P	
Cat. No.:	CS-7087	
CAS No.:	33507-63-0	
Molecular Formula:	C63H98N18O13S	
Molecular Weight:	1347.63	RPKPQQFFGLM-NH ₂
Target:	Endogenous Metabolite; Neurokinin Receptor	
Pathway:	GPCR/G Protein; Metabolic Enzyme/Protease; Neuronal Signaling	
Solubility:	H ₂ O : ≥ 20 mg/mL	

BIOLOGICAL ACTIVITY:

Substance P (Neurokinin P) is a neuropeptide, acting as a neurotransmitter and as a neuromodulator in the CNS. The endogenous receptor for substance P is **neurokinin 1 receptor (NK1-receptor, NK1R)**. IC₅₀ & Target: Neurokinin 1 receptor^[1] **In Vitro:** The neuropeptide substance P (SP) that are mediated by the neurokinin 1 receptor (NK1-R) desensitize and resensitize, which may be associated with NK1-R endocytosis and recycling. SP and the NK1-R are internalized into the same clathrin immunoreactive vesicles, and then sorted into different compartments. SP is intact at the cell surface and in early endosomes, but slowly degraded in perinuclear vesicles. SP induces clathrin-dependent internalization of the NK1-R. The SP/NK1-R complex dissociates in acidified endosomes. SP is degraded, whereas the NK1-R recycles to the cell surface. SP induces internalization of the NK1-R both in transfected epithelial cells^[1].

References:

- [1]. Grady EF, et al. Delineation of the endocytic pathway of substance P and its seven-transmembrane domain NK1 receptor. Mol Biol Cell. 1995 May;6(5):509-24.
- [2]. Zhang L, et al. MiR-34b/c-5p and the neurokinin-1 receptor regulate breast cancer cell proliferation and apoptosis. Cell Prolif. 2018 Oct 17:e12527.

CAIndexNames:

L-Methioninamide, L-arginyl-L-prolyl-L-lysyl-L-prolyl-L-glutaminy-L-glutaminy-L-phenylalanyl-L-phenylalanylglycyl-L-leucyl-

SMILES:

[RPKPQQFFGLM-NH2]

Caution: Product has not been fully validated for medical applications. For research use only.

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