# Substance P TFA

**Cat. No.:** HY-P0201A

**CAS No.:** 148470-19-3

**Molecular Formula:** $C_{65}H_{99}F_3N_{18}O_{15}S$

**Molecular Weight:** 1461.65

**Sequence:** Arg-Pro-Lys-Pro-Gln-Gln-Phe-Phe-Gly-Leu-Met-NH2

**Sequence Shortening:** RPKPQQFFGLM-NH2

**Target:** Neurokinin Receptor; Endogenous Metabolite

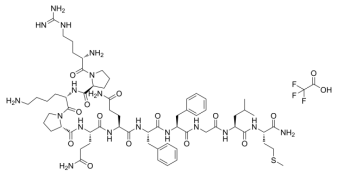
**Pathway:** GPCR/G Protein; Neuronal Signaling; Metabolic Enzyme/Protease

**Storage:** Stored under nitrogen, away from moisture

Powder -80°C 2 years

-20°C 1 year

* In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen, away from moisture)



## SOLVENT & SOLUBILITY

**In Vitro**

$H_2O$ : 100 mg/mL (68.42 mM; Need ultrasonic)

| Preparing Stock Solutions | Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|---|
| | 1 mM | 0.6842 mL | 3.4208 mL | 6.8416 mL |
| | 5 mM | 0.1368 mL | 0.6842 mL | 1.3683 mL |
| | 10 mM | 0.0684 mL | 0.3421 mL | 0.6842 mL |

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

**In Vivo**

1. Add each solvent one by one: PBS
   Solubility: 50 mg/mL (34.21 mM); Clear solution; Need ultrasonic

## BIOLOGICAL ACTIVITY

**Description**

Substance P TFA (Neurokinin P TFA) 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)[1].

| $IC_{50}$ & Target | NK1 | Human Endogenous Metabolite |
|---|---|---|

**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].

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

## CUSTOMER VALIDATION

- Prog Neurobiol. 2021 Mar 22;102041.
- J Invest Dermatol. 2022 Nov 18;S0022-202X(22)02770-1.
- Cell Prolif. 2019 Jan;52(1):e12527.
- iScience. 2023 Apr 13.
- J Immunol Res. 2022 May 12;2022:5582811.

See more customer validations on www.MedChemExpress.com

## 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.



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