

PRODUCT INFORMATION



RVG Peptide (trifluoroacetate salt)

Item No. 41606

Formal Name:	L-tyrosyl-L-threonyl-L-isoleucyl-L-tryptophyl-L-methionyl-L-prolyl-L- α -glutamyl-L-asparaginy-L-prolyl-L-arginyl-L-prolylglycyl-L-threonyl-L-prolyl-L-cysteinyl-L- α -aspartyl-L-isoleucyl-L-phenylalanyl-L-threonyl-L-asparaginy-L-seryl-L-arginylglycyl-L-lysyl-L-arginyl-L-alanyl-L-seryl-L-asparaginy-L-glycine, trifluoroacetate salt	H—Tyr—Thr—Ile—Trp—Met—Pro—Glu—Asn—Pro—Arg— Pro—Gly—Thr—Pro—Cys—Asp—Ile—Phe—Thr—Asn— Ser—Arg—Gly—Lys—Arg—Ala—Ser—Asn—Gly—OH
Synonyms:	Rabies Virus Glycoprotein, Rabies Virus Glycoprotein 29, RABV-G, RVG29	
Peptide Sequence:	YTIWMPENPRPGTPCDIFTNSRGKRASNG-OH	
MF:	C ₁₄₁ H ₂₁₇ N ₄₃ O ₄₃ S ₂ • XCF ₃ COOH	• XCF ₃ COOH
FW:	3,266.6	
Purity:	≥98%	
Supplied as:	A solid	
Storage:	-20°C	
Stability:	≥4 years	

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Rabies virus glycoprotein (RVG) peptide (trifluoroacetate salt) is supplied as a solid. A stock solution may be made by dissolving the RVG peptide (trifluoroacetate salt) in the solvent of choice, which should be purged with an inert gas. RVG peptide (trifluoroacetate salt) is soluble (≥10 mg/ml) in the organic solvent DMSO.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of RVG peptide (trifluoroacetate salt) can be prepared by directly dissolving the solid in aqueous buffers. RVG peptide (trifluoroacetate salt) is soluble (≥10 mg/ml) in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

Description

RVG peptide is a nicotinic acetylcholine receptor (nAChR) antagonist (IC₅₀ = 2.5 μ M for the human receptor).¹ Lipid nanoparticles (LNPs) conjugated to RVG peptide selectively traffic to the brain over the lungs and liver in rats.² LNPs conjugated to RVG peptide and encapsulating the iron chelator and prolyl hydroxylase inhibitor deferoxamine (DFO; Item No. 14595) reduce iron levels in the striatum and substantia nigra, as well as decrease levels of reactive oxygen species (ROS) and malondialdehyde (MDA) and increase levels of superoxide dismutase (SOD) in the substantia nigra in a mouse model of MPTP-induced Parkinson's disease. RVG-containing and DFO-encapsulating LNPs also increase the latency to fall in the rotarod test in the same model.

References

1. Lentz, T.L., Hawrot, E., and Wilson, P.T. Synthetic peptides corresponding to sequences of snake venom neurotoxins and rabies virus glycoprotein bind to the nicotinic acetylcholine receptor. *Proteins* **2**(4), 298-307 (1987).
2. You, L., Wang, J., Liu, T., *et al.* Correction to targeted brain delivery of rabies virus glycoprotein 29-modified deferoxamine-loaded nanoparticles reverses functional deficits in Parkinsonian mice. *ACS Nano* **16**(11), 19605 (2022).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM