

# PRODUCT INFORMATION



## Prion Protein (106-126) (trifluoroacetate salt)

Item No. 24556

<b>Formal Name:</b>	L-lysyl-L-threonyl-L-asparaginy-L-methionyl-L-lysyl-L-histidyl-L-methionyl-L-alanyl-glycyl-L-alanyl-L-alanyl-L-alanyl-L-alanyl-glycyl-L-alanyl-L-valyl-L-valyl-glycyl-glycyl-L-leucyl-glycine, trifluoroacetate salt	H—Lys—Thr—Asn—Met—Lys—His—Met—Ala—Gly—Ala—Ala—Ala—Ala—Gly—Ala—Val—Val—Gly—Gly—Leu—Gly—OH
<b>Synonym:</b>	PrP	• XCF <sub>3</sub> COOH
<b>MF:</b>	C <sub>80</sub> H <sub>138</sub> N <sub>26</sub> O <sub>24</sub> S <sub>2</sub> • XCF <sub>3</sub> COOH	
<b>FW:</b>	1,912.3	
<b>Purity:</b>	≥95%	
<b>Supplied as:</b>	A lyophilized powder	
<b>Storage:</b>	-20°C	
<b>Stability:</b>	≥4 years	

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

### Laboratory Procedures

Prion protein (106-126) (trifluoroacetate salt) is supplied as a lyophilized powder. A stock solution may be made by dissolving the prion protein (106-126) (trifluoroacetate salt) in water. The solubility of prion protein (106-126) (trifluoroacetate salt) in water is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Prion protein (106-126) is a peptide fragment of the cellular prion protein PrP<sup>C</sup>.<sup>1</sup> It forms fibrils that are organized into  $\beta$ -strands, a behavior characteristic of amyloids. It is toxic to primary rat hippocampal neurons at a concentration of 80  $\mu$ M following incubation for 10 days and induces DNA fragmentation and apoptosis. Prion Protein (106-126) (25  $\mu$ M) activates ERK1 and 2, p38, and JNK1 and 2 kinases, induces apoptosis, increases NADPH oxidase-dependent production of reactive oxygen species (ROS), and decreases glutathione (GSH) levels in 1C11<sup>5-HT</sup> serotonergic and 1C11<sup>NE</sup> noradrenergic differentiated neuronal cells.<sup>2</sup> It forms channels in lipid bilayer membranes that are freely permeable to calcium, sodium, potassium, lithium, rubidium, cesium, and chloride ions at a concentration of 20  $\mu$ M, and channel formation is significantly enhanced by aging and low pH.<sup>3</sup> *In vivo*, intraocular injection of prion protein (106-126) (1 mM) increases the number of terminal deoxynucleotidyltransferase-mediated dUTP nick end labeling (TUNEL) positive nuclei in mice 4 days post injection.<sup>4</sup>

### References

1. Forloni, G., Angeretti, N., Chiesa, R., *et al.* Neurotoxicity of a prion protein fragment. *Nature* **362**(6420), 543-546 (1993).
2. Pietri, M., Caprini, A., Mouillet-Richard, S., *et al.* Overstimulation of PrP<sup>C</sup> signaling pathways by prion peptide 106-126 causes oxidative injury of bioaminergic neuronal cells. *J. Biol. Chem.* **281**(38), 28470-28479 (2006).
3. Lin, M.-C., Mirzabekov, T., and Kagan, B.L. Channel formation by a neurotoxic prion protein fragment. *J. Biol. Chem.* **272**(1), 44-47 (1997).
4. Bergström, A.-L., Cordes, H., Zsurger, N., *et al.* Amidation and structure relaxation abolish the neurotoxicity of the prion peptide PrP106-126 *in vivo* and *in vitro*. *J. Biol. Chem.* **280**(24), 23114-23121 (2005).

#### 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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