

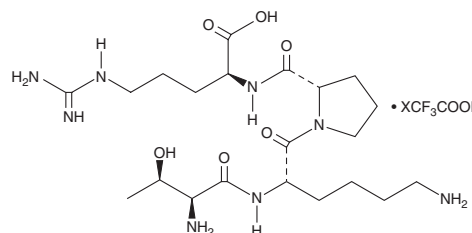
# PRODUCT INFORMATION



## Tuftsins (human) (trifluoroacetate salt)

Item No. 33804

**Formal Name:** L-threonyl-L-lysyl-L-prolyl-L-arginine, trifluoroacetate salt  
**Synonym:** Thr-Lys-Pro-Arg  
**MF:**  $C_{21}H_{40}N_8O_6 \cdot XCF_3COOH$   
**FW:** 500.6  
**Purity:**  $\geq 95\%$   
**Supplied as:** A solid  
**Storage:**  $-20^\circ C$   
**Stability:**  $\geq 4$  years



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

### Laboratory Procedures

Tuftsins (human) (trifluoroacetate salt) is supplied as a solid. A stock solution may be made by dissolving the tuftsins (human) (trifluoroacetate salt) in the solvent of choice, which should be purged with an inert gas. Tuftsins (human) (trifluoroacetate salt) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of tuftsins (human) (trifluoroacetate salt) in these solvents is approximately 30, 20, and 25 mg/ml, respectively.

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 tuftsins (human) (trifluoroacetate salt) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of tuftsins (human) (trifluoroacetate salt) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Tuftsins is an endogenous peptide generated by proteolysis of leukokinin that stimulates phagocytosis.<sup>1</sup> It binds human polymorphonuclear leukocytes (PMN), human monocytes, and mouse macrophages with  $K_d$  values of 130, 125, and 53 nM, respectively.<sup>2</sup> Tuftsins (200 nM) increases phagocytosis of IgG-coated ovine red blood cells by 61% in isolated mouse peritoneal macrophages. It increases phagocytosis of the bacteria *S. aureus* and *L. monocytogenes*, as well as the fungus *S. oviformis*, by isolated human, mouse, rabbit, dog, or guinea pig phagocytes when used at concentrations ranging from 0.01 to 0.15  $\mu g/ml$ .<sup>3</sup> Tuftsins (0.1, 0.5, and 25 mg/kg) increases survival in a syngeneic mouse model of 2-methylcholanthrene-induced fibrosarcoma.<sup>4</sup>

### References

1. Najjar, V.A. and Nishioka, K. "Tuftsins": A natural phagocytosis stimulating peptide. *Nature* **228**(5272), 672-673 (1970).
2. Gottlieb, P., Stabinsky, Y., Hiller, T., *et al.* Tuftsins receptors. *Ann. N.Y. Acad. Sci.* **419**, 93-106 (1983).
3. Martinez, J. and Winternitz, F. Bactericidal activity of tuftsins. *Mol. Cell Biochem.* **41**, 123-136 (1981).
4. Catane, R., Schlanger, S., Weiss, L., *et al.* Toxicology and antitumor activity of tuftsins. *Ann. N.Y. Acad. Sci.* **419**, 251-260 (1983).

#### 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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