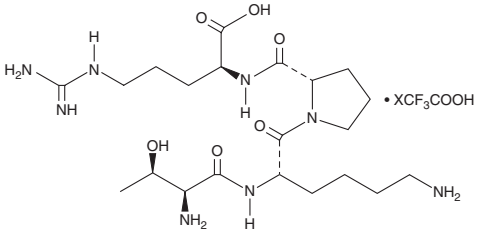
PRODUCT INFORMATION

Tuftsin (human) (trifluoroacetate salt)

Item No. 33804



Formal Name:	L-threonyl-L-lysyl-L-prolyl-L-arginine, trifluoroacetate salt
Synonym:	Thr-Lys-Pro-Arg
MF:	$C_{21}H_{40}N_8O_6 \bullet XCF_3COOH$
FW:	500.6
Purity:	≥95%
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

Tuftsin (human) (trifluoroacetate salt) is supplied as a solid. A stock solution may be made by dissolving the tuftsin (human) (trifluoroacetate salt) in the solvent of choice, which should be purged with an inert gas. Tuftsin (human) (trifluoroacetate salt) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of tuftsin (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 tuftsin (human) (trifluoroacetate salt) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of tuftsin (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

Tuftsin is an endogenous peptide generated by proteolysis of leukokinin that stimulates phagocytosis.[1] It binds human polymorphonuclear leukocytes (PMN), human monocytes, and mouse macrophages with K_d values of 130, 125, and 53 nM, respectively.[2] Tuftsin (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 µg/ml.[3] Tuftsin (0.1, 0.5, and 25 mg/kg) increases survival in a syngeneic mouse model of 2-methylcholanthrene-induced fibrosarcoma.[4]

References

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

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