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**Abstract****Full text links**J Immunol. 1981 Mar;126(3):915-21.**Tuftsins: a naturally occurring immunopotentiating factor. I. In vitro enhancement of murine natural cell-mediated cytotoxicity.**Phillips JH, Babcock GF, Nishioka K.**Abstract**

Tuftsins is a physiologic tetrapeptide, which has recently been shown to possess immunoadjuvant properties including the stimulation of macrophage and granulocyte phagocytosis, migration, bactericidal, and tumoricidal activities. Tuftsins has also been reported to possess in vivo immunologically mediated anti-tumor potential. To determine the potential role of tuftsins as an antineoplastic immunoadjuvant, the in vitro effects of tuftsins on murine natural cell-mediated cytotoxicity were studied. We observed that in vitro treatment of mouse splenic effector cells with synthetic tuftsins induced a pronounced enhancement of natural killer cell (NKC) cytotoxicity against the T cell lymphoma Yac-1. The magnitude of NKC enhancement was directly dependent upon the concentration of tuftsins employed, with maximum NKC stimulation observed at tuftsins concentrations of 50 to 100 microgram/ml. The tuftsins induced enhancement of NKC activity was not strain specific, since equivalent stimulation was seen in CBA/J, C56BL/10, and DBA/2 mice. Elimination of macrophages, monocytes, T cells, and immunoglobulin-bearing cells had no effect on the dose-dependent tuftsins stimulation of natural cell-mediated cytotoxicity; thus the characteristics of the effector cells activated by tuftsins were consistent with those reported for NKC. We also observed that treatment of splenic effector cells with tuftsins prolonged the cytotoxic capabilities of these cells beyond 18 hr.

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