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[Immunol Lett.](#) 2004 May 15;93(2-3):143-9. doi: 10.1016/j.imlet.2004.03.006.

# Down-regulatory effect of N-chlorotaurine on tryptophan degradation and neopterin production in human PBMC

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PMID: 15158610 DOI: [10.1016/j.imlet.2004.03.006](#)

## Abstract

N-Chlorotaurine (NCT) plays an important role in the human defense system as a main component of long-lived oxidants, and shows bactericidal, fungicidal, and virucidal activity. Besides this role, NCT seems to act regulatory on immunocompetent cells by altering cytokine production. NCT inhibited nitric oxide, TNF-alpha, and prostaglandin E(2) (PGE(2)) production in activated rodent macrophages, and suppressed superoxide anion, IL-6, and IL-8 formation in human polymorphonuclear leukocytes. In this study, the influence of NCT on the production of neopterin and the activation of the enzyme indoleamine-2,3 dioxygenase (IDO) was investigated in human peripheral blood mononuclear cells (PBMC). Both events are well established to be triggered by IFN-gamma and therefore related to Th1-type immune activation. Mitogen-induced neopterin production as well as tryptophan degradation were drastically reduced upon addition of NCT. Results fit in the concept of a reduction of pro-inflammatory cytokines by this compound. In contrast to earlier results, where NCT was suggested to act primarily down-regulatory on Th2 cells, we propose also a strong suppressive effect of NCT on Th1-type immunity.

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