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Alpha-1-Proteinase Inhibitor Human

National Cancer Institute

Source

National Cancer Institute. *Alpha-1-Proteinase Inhibitor Human*. NCI Thesaurus. Code C82258.

Human serum-derived alpha-1 proteinase inhibitor (alpha-1-antitrypsin or AAT) with immunomodulating and anti-inflammatory activity. Upon administration, AAT reduces the production of proinflammatory cytokines, such as tumor necrosis factor-alpha, interleukin (IL)-1 beta, IL-32, IL-6, and proteinase 3, and induces the production of anti-inflammatory cytokines, such as IL-10 and the IL-1 receptor antagonist IL-1RN. This agent also downregulates heparan sulfate and reduces the expansion of cytotoxic effector T cells, interferes with the maturation of dendritic cells and increases T regulatory cells. Altogether, AAT may attenuate acute graft-versus-host disease (GvHD) and may facilitate graft acceptance and survival. In addition, AAT enhances levels of cAMP and activation of cAMP-dependent protein kinase A. AAT, a 52kD protein and serine protease inhibitor, belongs to the serpin superfamily.