Tumor Necrosis Factor-alpha, canine recombinant (rcTNF-a)

Catalog No: 97578
Lot No: XXXXX
Source: *E. coli*
Synonyms: Tumor necrosis factor, Cachectin, TNF-alpha, Tumor necrosis factor ligand superfamily member 2, TNF-a, TNF, TNFA, TNFSF2

Background

Tumor necrosis factor is a cytokine involved in systemic inflammation and is a member of a group of cytokines that all stimulate the acute phase reaction. TNF is mainly secreted by macrophages. TNF causes apoptotic cell death, cellular proliferation, differentiation, inflammation, tumorigenesis and viral replication, TNF is also involved in lipid metabolism, and coagulation. TNF's primary role is in the regulation of immune cells. Dysregulation and, in particular, overproduction of TNF have been implicated in a variety of human diseases- autoimmune diseases, insulin resistance, and cancer.

Description

Tumor Necrosis Factor-a canine recombinant produced in *E. coli* is a single, non-glycosylated polypeptide chain containing 157 amino acids and having a molecular mass of 17.3 kDa. TNF-a is purified by proprietary chromatographic techniques.

Physical Appearance

Sterile filtered white lyophilized (freeze-dried) powder.

Formulation

Filtered (0.2 µm) and lyophilized from a concentrated (1 mg/ml) solution in 1×PBS, pH 7.4.

Solubility

It is recommended to reconstitute the lyophilized TNF-a in sterile 18 MΩ-cm H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability

Lyophilized Tumor Necrosis Factor-a, although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution TNF-a should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Purity

Greater than 95.0% as determined by (a) Analysis by RP-HPLC, (b) Analysis by SDS-PAGE.

Amino Acid Sequence

VKSSSRTPSD KPVAHVVANP EAEGQLQWLS RRANALLANG VELTDNQLIV PSDGLYLIYS QVLFKGQGCP STHVLLTHTI
SRFAVSYQTK VNLLSAIKSP CQRETPEGTE AKPWYEPIYL GGVFQLEKGD RLSAEINLPN YLDFAESGQV YFGIIAL

Activity

The specific activity is >3.3 × 10^5 IU/mg as determined by the cytolysis of murine L929 cells in the presence of Actinomycin D.

Usage

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