

Recombinant Canine Tumor Necrosis Factor-alpha/TNFSF2 (Canine TNF- α /TNFSF2)

Product Information

Product Name	Cat#	Size
Recombinant Canine Tumor Necrosis Factor-alpha/TNFSF2 (Canine TNF- α /TNFSF2)	90627ES08	5 μ g
	90627ES60	100 μ g
	90627ES76	500 μ g

Product Description

Tumor necrosis factor alpha (TNF-alpha), also known as cachectin and TNFSF2, is the prototypic ligand of the TNF superfamily. It is a pleiotropic molecule that plays a central role in inflammation, immune system development, apoptosis, and lipid metabolism. Canine TNF-alpha consists of a 35 amino acid (aa) cytoplasmic domain, a 21 aa transmembrane segment, and a 177 aa extracellular domain (ECD). Within the ECD, canine TNF-alpha shares 84% - 94% aa sequence identity with equine, feline, human, porcine, and rhesus and 69%-77% with bovine, cotton rat, mouse, and rat with TNF-alpha. TNF-alpha is produced by a wide variety of immune, epithelial, endothelial, and tumor cells. TNF-alpha is assembled intracellularly to form a noncovalently linked homotrimer which is expressed on the cell surface. Cell surface TNF-alpha can induce the lysis of neighboring tumor cells and virus infected cells, and it can generate its own downstream cell signaling following ligation by soluble TNFR I. Shedding of membrane bound TNF-alpha by TACE/ADAM17 releases the bioactive cytokine, a 55 kDa soluble trimer of the TNF-alpha extracellular domain. TNF-alpha binds the ubiquitous 55-60 kDa TNF RI and the hematopoietic cell-restricted 80 kDa TNF RII, both of which are also expressed as homotrimers. Both type I and type II receptors bind TNF-alpha with comparable affinity, although only TNF RI contains a cytoplasmic death domain which triggers the activation of apoptosis. Soluble forms of both types of receptors are released and can neutralize the biological activity of TNF-alpha.

Product Properties

Synonyms	APC1 protein; Cachectin; Cachetin; DIF
Accession	P51742
GeneID	403922
Source	E.coli-derived Canine TNF- α /TNFSF2, Val77-Leu233.
Molecular Weight	Approximately 17.3 kDa.
AA Sequence	VKSSRTPSD KPSVAHVANP EAEGQLQWLS RRANALLANG VELTDNQLIV PSDGLYLIYS QVLFKGGQCP STHVLLHTI SRFVSYQTK VNLLSAIKSP CQRETPEGTE AKPWYEPIYL GGVFQLEKGD RLSAEINLPN YLDFAESGQV YFGIHAL
Tag	None
Physical Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Purity	> 95% by SDS-PAGE and HPLC analyses.
Biological Activity	The ED ₅₀ as determined by a cytotoxicity assay using murine L929 cells is less than 1.0 ng/mL, corresponding to a specific activity of > 1.0 \times 10 ⁶ IU/mg in the presence of actinomycin D. Fully biologically active when compared to standard.
Endotoxin	< 1.0 EU per 1 μ g of the protein by the LAL method.

Formulation	Lyophilized from a 0.2 μ m filtered solution in PBS, pH 7.4.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at $\leq -20^{\circ}\text{C}$. Further dilutions should be made in appropriate buffered solutions.

Shipping and Storage

The products are shipped with ice pack and can be stored at -20°C to -80°C for 1 year.

Recommend to aliquot the protein into smaller quantities when first used and avoid repeated freeze-thaw cycles.

Cautions

1. Avoid repeated freeze-thaw cycles.
2. For your safety and health, please wear lab coats and disposable gloves for operation.
3. For research use only!