

## 32-8282: Recombinant Human Tumor Necrosis Factor $\alpha$ /TNF $\alpha$ (C-6His)

**Gene :** TNF  
**Gene ID :** 7124  
**Uniprot ID :** P01375

### Description

Source: E. coli.  
MW :18.5kD.

Recombinant Human Tumor Necrosis Factor alpha is produced by our E.coli expression system and the target gene encoding Val77-Leu233 is expressed with a 6His tag at the C-terminus. Tumor Necrosis Factor- $\alpha$  (TNF- $\alpha$ ) is secreted by macrophages, monocytes, neutrophils, T-cells, and NK-cells following stimulation by bacterial LPS. Cells expressing CD4 secrete TNF- $\alpha$  while cells that express CD8 secrete little or no TNF- $\alpha$ . Synthesis of TNF- $\alpha$  can be induced by many different stimuli including interferons, IL2, and GM-CSF. The clinical use of the potent anti-tumor activity of TNF- $\alpha$  has been limited by the proinflammatory side effects such as fever, dose-limiting hypotension, hepatotoxicity, intravascular thrombosis, and hemorrhage. Designing clinically applicable TNF- $\alpha$  mutants with low systemic toxicity has been of intense pharmacological interest. Human TNF- $\alpha$  that binds to murine TNF-R55 but not murine TNF-R7, exhibits retained anti-tumor activity and reduced systemic toxicity in mice compared with murine TNF- $\alpha$ , which binds to both murine TNF receptors. Based on these results, many TNF- $\alpha$  mutants that selectively bind to TNF-R55 have been designed. These mutants displayed cytotoxic activities on tumor cell lines in vitro and have exhibited lower systemic toxicity in vivo. Recombinant Human TNF- $\alpha$  High Active Mutant differs from the wild-type by amino acid substitution of amino acids 1-7 with Arg8, Lys9, Arg10 and Phe157. This mutant form has been shown to have increased activity with less inflammatory side effects in vivo.

### Product Info

**Amount :** 10  $\mu$ g / 50  $\mu$ g  
**Content :** Lyophilized from a 0.2  $\mu$ m filtered solution of 20mM PB,150mM NaCl,pH7.4.  
**Storage condition :** Lyophilized protein should be stored at -20°C, though stable at room temperature for 3 weeks. Reconstituted protein solution can be stored at 4-7°C for 2-7 days. Aliquots of reconstituted samples are stable at -20°C for 3 months.  
**Amino Acid :** MVRSSSRTPSDKPVAVHVVANPQAEGLQWLNRANALLANGVELRDNLVVPSEGLYLIYSQVLFKGGQCPS  
THVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAIAKPWYEPIYLGGVFQLEKGDRLSAEINRPDYLDFAES  
GQVYFGIALLLEHHHHHH

### Application Note

**Endotoxin :** Less than 0.1 ng/ $\mu$ g (1 IEU/ $\mu$ g) as determined by LAL test.