

# Cytokines

## Human Recombinant TNF-receptor 1

Tumor necrosis factor receptor 1



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Catalog # 78126  
78126.1

20 µg  
100 µg

## Product Description

Tumor necrosis factor receptor type 1 (TNFR1) is a member of the TNF receptor superfamily and is activated upon binding to TNF- $\alpha$ . TNFR1 activates NF- $\kappa$ B and MAPK pathways, which results in inflammation, apoptosis, and inhibition of tumorigenesis and viral replication. TNFR1 is essential for transducing TNF signals during organogenesis and surviving infections caused by intracellular bacteria (Hehlhans & Pfeffer). Soluble TNFR1 is released into the bloodstream to bind circulating TNF- $\alpha$  and suppress inflammation. Mutations in TNFR1 result in TNFR-associated periodic syndrome that manifests with inflammatory episodes (Turner et al.).

## Product Information

Alternative Names: CD120a, TNFAR, TNFR55, TNFRSF1A

Accession Number: P19438

Amino Acid Sequence: MDSVCPQGKY IHPQNSICC TKCHKGTLY NDCPGPGQDT DCRECESGSF TASENHLRHC LSCSKCRKEM  
GQVEISSCTV DRDTVCGCRKN QYRHYWSEN L FQCFNCSLCL NGTVHLSCQE KQNTVCTCHA GFFLRENECV  
SCSNCKKSLE CTKLCLPQI EN

Predicted Molecular Mass: 18.3 kDa

Species: Human

Cross Reactivity: Mouse, Rat

Formulation: Lyophilized from a sterile filtered aqueous solution containing sodium phosphate, pH 7.5.

Source: E. coli

## Specifications

Activity: The specific activity is  $\geq 1.0 \times 10^4$  units/mg ( $EC_{50} \leq 0.10$  µg/mL) as determined by neutralization of human TNF- $\alpha$  induced cytotoxicity of L929 cells.

Purity:  $\geq 95\%$

Endotoxin Level: Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is  $\leq 1.0$  EU/µg protein.

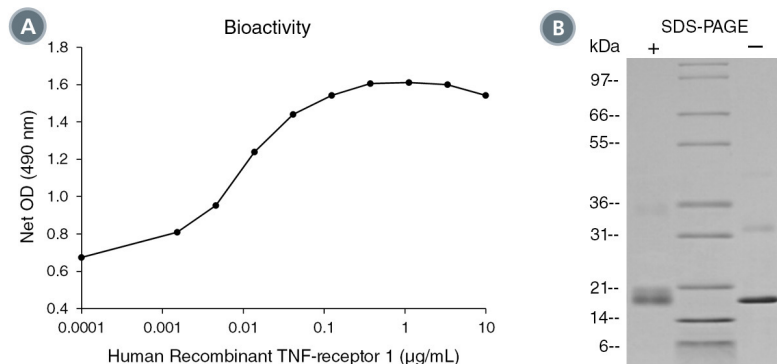
## Preparation and Storage

Storage: Store at -20°C to -80°C.

Stability: Stable as supplied for 12 months from date of receipt.

Preparation: Centrifuge vial before opening. Resuspend the product in sterile water containing 0.1% bovine serum albumin (BSA) to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. Store at 2 - 8°C for up to 1 month or at -20°C to -80°C for up to 3 months. Avoid repeated freeze-thaw cycles.  
NOTE: If reconstituted product will be used immediately BSA is not required.

## Data



(A) The biological activity of Human Recombinant TNF-receptor 1 was tested by its ability to neutralize human TNF-alpha induced cytotoxicity of L929 cells. Cell viability was measured after 66 hours using a fluorometric assay method. The EC50 is defined as the effective concentration of the growth factor at which cell viability is at 50% of maximum. The EC50 in the above example is 0.01 µg/mL.

(B) 1 µg of Human Recombinant TNF-receptor 1 was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining.

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## References

- Hehlhans T & Pfeffer K. (2005) The intriguing biology of the tumour necrosis factor/tumour necrosis factor receptor superfamily: players, rules and the games. *Immunology* 115(1): 1–20.
- Turner MD et al. (2012) Tumour necrosis factor receptor trafficking dysfunction opens the TRAPS door to pro-inflammatory cytokine secretion. *Biosci Rep* 32(2): 105–12.

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