Recombinant Cynomolgus Monkey TNF RI/TNFRSF1A Fc Chimera

Catalog Number: 9884-TR

DESCRIPTION

Source

Human embryonic kidney cell, HEK293-derived cynomolgus monkey TNF RI/TNFRSF1A protein

N-terminal Sequence Analysis	Leu30
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	47 kDa

SPECIFICATIONS

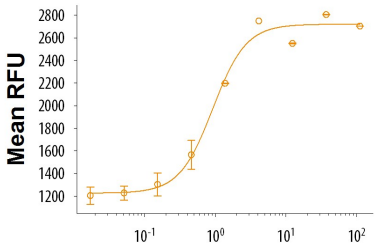
SDS-PAGE	55-66 kDa, reducing conditions
Activity	Measured by its ability to inhibit the TNF-α mediated cytotoxicity in the L-929 mouse fibroblast cells in the presence of the metabolic inhibitor actinomycin D. Matthews, N. and M.L. Neale (1987) in Lymphokines and Interferons, A Practical Approach. Clemens, M.J. *et al.* (eds): IRL Press. 221. The ED_{50} for this effect is 0.6-3.6 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	• 12 months from date of receipt, ≤ -20 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, ≤ -20 °C under sterile conditions after reconstitution.

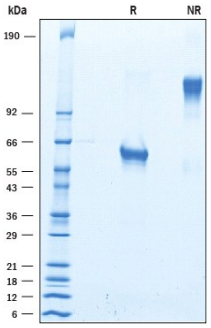
DATA

Inhibition Activity



Recombinant Cynomolgus Monkey TNF RI/TNFRSF1A Fc Chimera (Catalog # 9884-TR) inhibits Recombinant Human TNF-α (Catalog # 210-TA) mediated cytotoxicity in the L-929 mouse fibroblast cells. The ED_{50} for this effect is 0.6-3.6 ng/mL.

SDS-PAGE



2 µg/lane of Recombinant Cynomolgus Monkey TNF RI/TNFRSF1A was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 55-66 kDa and 110-130 kDa, respectively.

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BACKGROUND

TNF receptor 1 is a 55 kDa type I transmembrane protein member of the TNF receptor superfamily, designated TNFRSF1A (1, 2). TNF RI is a 455 amino acid (aa) protein that contains a signal sequence and ECD with a PLAD (pre-ligand assembly domain) that mediates constitutive dimer/trimer formation, followed by four CRD (cysteine-rich domains), a transmembrane domain, and a cytoplasmic domain that contains a neutral sphingomyelinase activation domain and a death domain (3, 4). The ECD of cynomolgus TNF RI shows 97%, 69%, and 68% aa identity with human, mouse and rat TNF RI, respectively. Both TNF RI and TNF RII (TNFRSF1B) are widely expressed and contain four TNF-alpha trimer-binding CRD in their ECD. However, TNF RI is thought to mediate most of the cellular effects of TNF-alpha (3). TNF RI is essential for proper development of lymph node germinal centers and Peyer's patches, and for combating intracellular pathogens such as Listeria (1, 2, 5). TNF RI is also a receptor for TNF-beta/TNFSF1B (lymphotoxin-alpha) (6). TNF RI is stored in the Golgi and translocates to the cell surface following pro-inflammatory stimuli (7). TNF-alpha stabilizes TNF RI and induces its sequestering in lipid rafts, where it activates NF kappa B and is cleaved by ADAM-17/TACE (8, 9, 16). Release of the 28-34 kDa TNF RI ECD also occurs constitutively and in response to products of pathogens such as LPS, CpG DNA or *S. aureus* protein A (1, 10-12). Full-length TNF RI may also be released in exosome-like vesicles (13). Release helps to resolve inflammatory reactions, since it down-regulates cell surface TNF RI and provides soluble TNF RI to bind TNF-alpha (10, 14-15). Exclusion from lipid rafts causes endocytosis of TNF RI complexes and induces apoptosis (1). Mutations of human TNF R1 can result in inflammatory episodes known as TRAPS (TNFR-associated periodic syndrome) (7).

References:

1. Pfeffer, K. (2003) Cytokine Growth Factor Rev. **14**:185.
2. Hehlgans, T. and K. Pfeffer (2005) Immunology **115**:1.
3. Chan, F.K. *et al.* (2000) Science **288**:2351.
4. Schall, T.J. *et al.* (1990) Cell **61**:361.
5. Peschon, J.J. *et al.* (1998) J. Immunol. **160**:943.
6. Banner, D.W *et al.* (1993) Cell **73**:431.
7. Turner, M.D. *et al.* (2012) Biosci. Rep. **32**:105.
8. Legler, D.F. *et al.* (2003) Immunity **18**:655.
9. Tellier, E. *et al.* (2006) Exp. Cell Res. **312**:3969.
10. Xanthoulea, S. *et al.* (2004) J. Exp. Med. **200**:367.
11. Jin, L. *et al.* (2000) J. Immunol. **165**:5153.
12. Gomez, M.I. *et al.* (2006) J. Biol. Chem. **281**:20190.
13. Islam, A. *et al.* (2006) J. Biol. Chem. **281**:6860.
14. Garton, K.J. *et al.* (2006) J. Leukoc. Biol. **79**:1105.
15. McDermott, M.F. *et al.* (1999) Cell **97**:133.

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