

## RANK/TNFRSF11A Protein, Rat, Recombinant (hFc)

### General Information

Synonyms:	TNFRSF11A;tumor necrosis factor receptor superfamily member 11a
Protein Construction:	A DNA sequence encoding the rat TNFRSF11A (NP_001258164.1)(Met1-Pro213) was expressed, fused with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Val 31
Species:	Rat
Expression Host:	HEK293 Cells
Accession:	F1M8Z6
Molecular Weight:	47.1 kDa (predicted); 61 kDa (reducing conditions)

### QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 80 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

**Reconstitution:**  
A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

**Stability & Storage:**

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

**Shipping:**

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

TNFRSF11A is a member of the TNF-receptor superfamily. In mouse, it is also known as CD265. TNFRSF11A contains 4 TNFR-Cys repeats and is widely expressed with high levels in skeletal muscle, thymus, liver, colon, small intestine and adrenal gland. It is an essential mediator for osteoclast and lymph node development. TNFRSF11A and its ligand are important regulators of the interaction between T cells and dendritic cells. It can interact with various

TRAF family proteins, through which this receptor induces the activation of NF-kappa B and MAPK8/JNK. Defects in TNFRSF11A can cause familial expansile osteolysis (FEO). FEO is a rare autosomal dominant bone disorder characterized by focal areas of increased bone remodeling. Defects in TNFRSF11A also can cause Paget disease of bone type 2 (PDB2). PDB2 is a bone-remodeling disorder with clinical similarities to FEO. Defects in TNFRSF11A are the cause of osteopetrosis autosomal recessive type 7 which characterized by abnormally dense bone, due to defective resorption of immature bone.

### Reference

Darnay B G, et al. (1998) Characterization of the intracellular domain of receptor activator of NF-kappaB (RANK). Interaction with tumor necrosis factor receptor-associated factors and activation of NF-kappab and c-Jun N-terminal kinase. J Biol Chem. 273(32):20551-5.

Darnay B G, et al. (1999) Activation of NF-kappaB by RANK requires tumor necrosis factor receptor-associated factor (TRAF) 6 and NF-kappaB-inducing kinase. Identification of a novel TRAF6 interaction motif. J Biol Chem. 274(12):7724-31.

Galibert L, et al. (1998) The involvement of multiple tumor necrosis factor receptor (TNFR)-associated factors in the signaling mechanisms of receptor activator of NF-kappaB, a member of the TNFR superfamily. J Biol Chem. 273(51):34120-7.

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