

Human RANK-Ligand – soluble research grade

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1. Description

Products Human RANK-Ligand – soluble, research grade.
Recombinant soluble human receptor activator of NF- κ B ligand.

Content in μ g	Order no.
2	130-093-987
10	130-093-988
100	130-094-631
1000	130-108-963

Primary structure Single, non-glycosylated polypeptide chain including N-terminal methionine (176 amino acid residues).

Molecular mass 20 kDa.

Source Produced in *E. coli*.

Product format Lyophilized from a filtered (0.2 μ m) buffer solution.

Stabilizer None.

Purity >97% as determined by SDS-PAGE analysis.

Endotoxin level Low endotoxin (<1.0 EU/ μ g cytokine) as determined by Limulus Amebocyte Lysate (LAL) assay.

Storage Lyophilized Human RANK-Ligand – soluble, research grade should be stored at –20 °C. The expiration date is indicated on the vial label. Upon reconstitution aliquots should be stored at –20 °C or below. Avoid repeated freeze-thaw cycles.

Reconstitution It is recommended to reconstitute lyophilized Human RANK-Ligand – soluble, research grade with deionized sterile-filtered water to a final concentration of 0.1–1.0 mg/mL in a minimal volume of 20 μ L. Further dilutions should be prepared with 0.1% bovine serum albumin (BSA) or human serum albumin (HSA) in phosphate-buffered saline.

1.1 Background information

Receptor activator of nuclear factor kappa-B (RANK) ligand, also known as tumor necrosis factor ligand superfamily member 11 (TNFSF11), together with RANK, is a member of the TNF superfamily of ligands and receptors involved in activation of

immune response and in bone regeneration. RANK-Ligand is expressed in several tissues and cell types, including fibroblasts, T cells, and osteoblasts, and functions by binding its cell surface signaling receptor RANK. RANK-Ligand is expressed by T helper cells and is involved in dendritic cell maturation. Binding of osteoprotegerin (OPG) by RANK-Ligand inhibits osteoclastogenesis and leads to accumulation of bone and cartilage. High expression of RANK-Ligand is observed during degenerative bone diseases and in tumors. Human RANK-Ligand shares with mouse 85% amino acid identity and is reactive on murine cells.

1.2 Applications

Human RANK-Ligand – soluble can be used for a variety of applications, including:

- *In vitro* differentiation of monocytes to osteoclasts, together with M-CSF.
- Study of cell-receptor signaling of tumor necrosis factor receptor family.
- Investigation in immune cell activation, osteogenesis, and tumor growth.

Optimal concentration for a specific application should be determined by a dose-response experiment.

Refer to www.miltenyibiotec.com for all data sheets and protocols. Miltenyi Biotec provides technical support worldwide. Visit www.miltenyibiotec.com/local to find your nearest Miltenyi Biotec contact.

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