Cytokines

Human Recombinant RANKL, ACF

Receptor activator of nuclear factor kappa-B ligand, animal component-free

Catalog #	78215	10 µg
	78215.1	100 µg
	78215.2	500 µg
	78215.3	1000 µg

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Product Description

Receptor activator of nuclear factor kappa-B ligand (RANKL) is a member of the tumor necrosis factor (TNF) superfamily (Anderson et al.). Cytokines in the TNF superfamily are involved in a variety of long-term cellular activities, such as differentiation, proliferation, and cell death (MacEwan). RANKL is a type II homotrimeric transmembrane protein expressed in both a membrane-bound and secreted form (Ikeda et al.). RANKL binds to the receptor activator of nuclear factor kappa-B (RANK). Upon binding to its receptor, RANKL activates the AKT signaling pathway (Moon et al.). Osteoprotegerin (OPG) may also bind RANKL, and this binding competes with RANKL-RANK binding (Lacey et al.). RANKL is involved in osteoclastogenesis (Lacey et al.; Yasuda et al.) and T cell activation (Wong et al.). This product is animal component-free.

Product Information

Alternative Names:	CD254, hRANKL2, ODF, OPGL, OPTB2, Osteoclast differentiation factor, soluble Receptor activator of NF-κB ligand, sOdf, TNF-related activation-induced cytokine, TNFSF11, TNF superfamily member 11, TNLG6B, Tumor necrosis factor superfamily member 11, TRANCE
Accession Number:	O14788
Amino Acid Sequence:	EKAMVDGSWL DLAKRSKLEA QPFAHLTINA TDIPSGSHKV SLSSWYHDRG WAKISNMTFS NGKLIVNQDG FYYLYANICF RHHETSGDLA TEYLQLMVYV TKTSIKIPSS HTLMKGGSTK YWSGNSEFHF YSINVGGFFK LRSGEEISIE VSNPSLLDPD QDATYFGAFK VRDID
Predicted Molecular Mass:	19.7 kDa
Species:	Human
Cross Reactivity:	Mouse
Formulation:	Lyophilized from a sterile-filtered solution containing sodium phosphate, pH 7.5.
Source:	E. coli

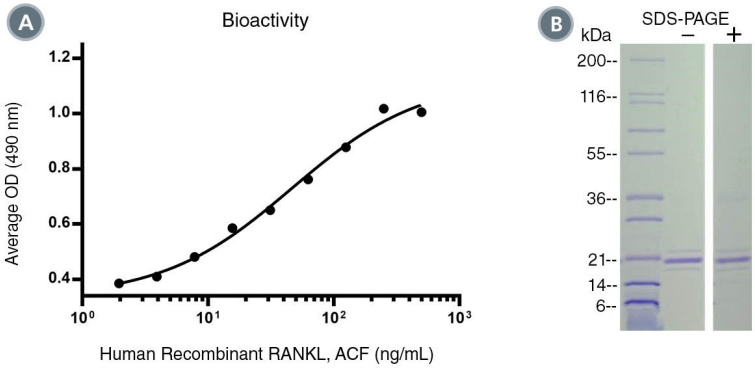
Specifications

Activity:	The specific activity is ≥ 2.0 x 10^4 units/mg (EC50 ≤ 50 ng/mL) as determined by embryonic alkaline phosphatase production induced in RAW-Blue™ macrophage reporter cells.
Purity:	≥ 95%
Endotoxin Level:	Measured by kinetic Limulus amebocyte lysate (LAL) analysis and is ≤ 1 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. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. OPTIONAL: After reconstitution, if product will not be used immediately, dilute with concentrated bovine serum albumin (BSA) to a final BSA concentration of 0.1%. The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at 2 - 8°C for more than 1 month or at -20°C to -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant RANKL, ACF was tested by its ability to induce production of embryonic alkaline phosphatase in RAW-Blue™ macrophage reporter cells. Alkaline phosphatase production was measured using a fluorometric assay method. The EC50 is defined as the effective concentration of the growth factor at which alkaline phosphatase activity is at 50% of maximum. The EC50 in the above example is 38.8 ng/mL.
(B) Human Recombinant RANKL, ACF was resolved with SDS-PAGE under reducing (+) conditions and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant RANKL, ACF has a predicted molecular mass of 19.7 kDa.

Related Products

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References

Anderson DM et al. (1997) A homologue of the TNF receptor and its ligand enhance T-cell growth and dendritic-cell function. Nature 390(6656): 175–9.
Ikeda T et al. (2001) Determination of three isoforms of the receptor activator of nuclear factor-kappaB ligand and their differential expression in bone and thymus. Endocrinology 142(4): 1419–26.
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