

## DESCRIPTION

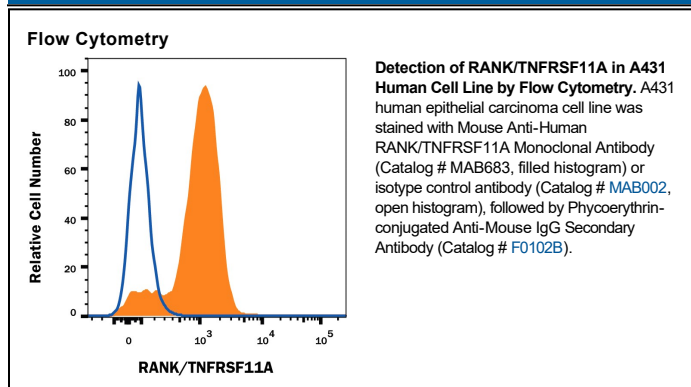
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human RANK/TNFRSF11A in ELISAs and Western blots. In direct ELISAs, no cross-reactivity with recombinant human (rh) 4-1BB, rhBAFF R, rhCD27, rhCD30, rhCD40, rhDR3, rhDR6, rhEDAR, rhFas, rhGITR, rhHVEM, rhLymphotoxin $\beta$ R, rhNGF R, rhOPG, rhTAJ, rhTNF RI, rhTNF RII, or recombinant mouse (rm) OX40, and rmRANK is observed.
<b>Source</b>	Monoclonal Mouse IgG <sub>1</sub> Clone # 80704
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human RANK/TNFRSF11A extracellular domain Accession # Q9Y6Q6
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 $\mu$ m filtered solution in PBS.

## APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

	Recommended Concentration	Sample
<b>Western Blot</b>	1 $\mu$ g/mL	Recombinant Human RANK/TNFRSF11A Fc Chimera (Catalog # 683-RK)
<b>Flow Cytometry</b>	0.25 $\mu$ g/10 <sup>6</sup> cells	See Below
<b>Human RANK/TNFRSF11A Sandwich Immunoassay</b>		<b>Reagent</b>
<b>ELISA Capture</b>	2-8 $\mu$ g/mL	Human RANK/TNFRSF11A Antibody (Catalog # MAB683)
<b>ELISA Detection</b>	0.1-0.4 $\mu$ g/mL	Human RANK/TNFRSF11A Biotinylated Antibody (Catalog # BAF683)
<b>Standard</b>		Recombinant Human RANK/TNFRSF11A Fc Chimera (Catalog # 683-RK)
<b>CyTOF-ready</b>	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

## DATA



## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

RANK (receptor activator of NF- $\kappa$ B, also known as TRANCE receptor, osteoclast differentiation factor receptor [ODFR]) and TNFRSF11A is a member of the tumor necrosis factor receptor family. The full length human RANK cDNA encodes a type I transmembrane protein of 616 amino acids with a predicted 184 amino acid extracellular domain and a 383 amino acid cytoplasmic domain. The extracellular domain contains two potential N-linked glycosylation sites. RANK shares significant amino acid homology with other members of the TNF R family in its extracellular four cysteine-rich repeats. Human and murine RANK share 81% amino acid identity in their extracellular domains. RANK is widely expressed with highest levels in skeletal muscle, thymus, liver, colon, small intestine and adrenal gland. RANK is expressed in dendritic cells. In activated human peripheral blood T lymphocytes, RANK expression is induced by IL-4 and TGF- $\beta$ . Multiple tumor necrosis factor receptor-associated factors (TRAFs) are involved in the signaling of RANK. TRANCE (TNF-related activation-induced cytokines, also known as RANK ligand [RANKL], osteoprotegerin ligand [OPGL], and osteoclast differentiation factor [ODF]) is the ligand for RANK. The biological functions mediated through RANK include activation of NF- $\kappa$ B and c-jun N-terminal kinase, enhancement of T cell growth and dendritic cell function, induction of osteoclastogenesis, and lymph node organogenesis. Soluble RANK is able to block TRANCE induced biological activity.

## References:

1. Anderson, D.M. *et al.* (1997) *Nature* **390**:175.
2. Nakagawa, N. *et al.* (1998) *Biochem. Biophys. Res. Commun.* **245**:382.