# Active Receptor Activator Of Nuclear Factor Kappa B Ligand (RANkL)

*Catalog#:PHM12535*

## 概述（Summary）

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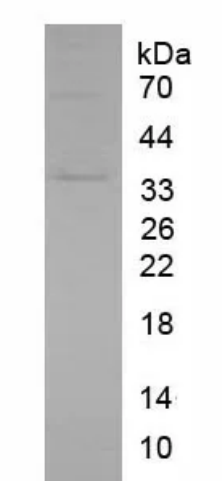
| **别称（Alternative Names）** | CD254; TNFSF11; ODF; OPGL; TRANCE; HRANKL2; SOdf; Tumor Necrosis Factor(ligand)superfamily Member 11; TNF-related activation-induced cytokine |
| **纯度（Purity）** | Greater than 95% as determined by reducing SDS-PAGE. |
| **内毒素（Endotoxin level）** | Please contact with the lab for this information |
| **蛋白构建（Construction）** | 【Arg72-Asp316】 |
| **Accession #** | O35235 |
| **表达宿主（Host）** | 293F |
| **种属（Species）** | Mus musculus (Mouse) |
| **预测分子量（Predicted MW）** | 29.2 kDa |
| **制剂（Form）** | Lyophilized from a 0.2 μm filtered solution of PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300. |
| **运输方式（Shipping）** | The product is shipped with ice bag. Upon receipt, store it immediately at the temperature listed below. |
| **稳定性&储存（Stability &Storage）** | 12 months at -20°C to -80°C in lyophilized state.6 months at -20°C to -80°C under sterile conditions after reconstitution.7-10 days at 2°C to 8°C under sterile conditions after reconstitution.Please minimize freeze-thaw cycles. |
| **复溶（Reconstitution）** | Reconstitute in 10mM PBS (pH7.6) to a concentration of 0.1-1.0 mg/mL. Do not vortex. |
| **背景介绍（References）** | Cytokine that binds to TNFRSF11B/OPG and to TNFRSF11A/RANK. Osteoclast differentiation and activation factor. Augments the ability of dendritic cells to stimulate naive T-cell proliferation. May be an important regulator of interactions between T-cells and dendritic cells and may play a role in the regulation of the T-cell-dependent immune response. May also play an important role in enhanced bone-resorption in humoral hypercalcemia of malignancy. Induces osteoclastogenesis by activating multiple signaling pathways in osteoclast precursor cells, chief among which is induction of long lasting oscillations in the |

intracellular concentration of Ca (2+) resulting in the activation of NFATC1, which translocates to the nucleus and induces osteoclast-specific gene transcription to allow differentiation of osteoclasts. During osteoclast differentiation, in a TMEM64 and ATP2A2-dependent manner induces activation of CREB1 and mitochondrial ROS generation necessary for proper osteoclast generation.

## 电泳图（SDS-PAGE image）




Greater than 95% as determined by reducing SDS-PAGE.

## 活性图（Bioactivity image）

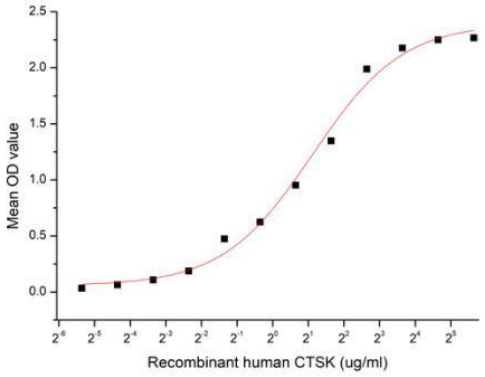



**Figure 1. The binding activity of recombinant mouse RANkL and recombinant human CTSK**

Receptor activator of nuclear factor kappa B ligand (RANkL) is a member of the TNF superfamily of proteins. RANkL is expressed by macrophages and osteoblasts, and functions as an activator of RANK and is an important factor in osteoclast differentiation, activation and survival. Cathepsin K (CTSK) plays an essential role in osteoclastic bone resorption and CTSK levels increase with osteoclast differentiation and activation, a process that is controlled by RANkL. Thus a functional binding ELISA assay was conducted to detect the interaction of recombinant mouse RANkL and recombinant human CTSK. Briefly, CTSK was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 µl were then transferred to RANkL-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST and incubated for 1h with anti-CTSK pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37℃, wells were aspirated and washed 5 times. With the

addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50 µL stop solution to the wells and read at 450/630 nm immediately. The result was shown in Figure 1. When recombinant mouse RANkL is lmmobilized at 2 ug/mL (100 ul/well), the concentration of recombinant human CTSK that produces 50% optimal binding response is found to be approximately 2.17 ug/mL.

## 注意事项（Note）

For Research Use Only , Not for Diagnostic Use.