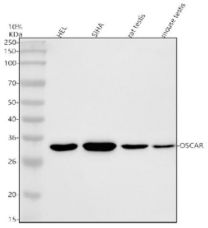
OSCAR Antibody / Osteoclast-associated immunoglobulin-like receptor (FY13171)

Catalog No.	Formulation	Size
FY13171	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q8IYS5
Applications	Western Blot: 0.25-0.5ug/ml ELISA: 0.1-0.5ug/ml
Limitations	This OSCAR antibody is available for research use only.



Western blot analysis of OSCAR using anti-OSCAR antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human HEL whole cell lysates, Lane 2: human SIHA whole cell lysates, Lane 3: rat testis tissue lysates, Lane 4: mouse testis tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-OSCAR antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using an ECL Plus Western Blotting Substrate. A specific band was detected for OSCAR at approximately 30 kDa. The expected molecular weight of OSCAR is ~30 kDa.

Description

OSCAR antibody detects Osteoclast-associated immunoglobulin-like receptor, a transmembrane receptor expressed in

osteoclasts and myeloid immune cells. The UniProt recommended name is Osteoclast-associated immunoglobulin-like receptor (OSCAR). This receptor participates in osteoclast differentiation, bone resorption, and immune regulation by transducing activation signals through association with the Fc receptor gamma chain.

Functionally, OSCAR antibody identifies a 287-amino-acid protein containing two extracellular immunoglobulin-like domains and a short cytoplasmic tail. OSCAR acts as a costimulatory receptor on osteoclast precursors, promoting NFATc1 activation and osteoclastogenesis in response to RANKL and ITAM signaling. It also mediates immune cell activation, cytokine secretion, and antigen presentation in monocytes and dendritic cells.

The OSCAR gene is located on chromosome 19q13.4 and is primarily expressed in bone-resorbing osteoclasts, macrophages, and dendritic cells. Its activity links the immune and skeletal systems, contributing to bone remodeling and inflammation-associated bone loss.

Pathologically, elevated OSCAR expression has been observed in rheumatoid arthritis, osteoporosis, and periodontitis, where excessive osteoclast activation leads to bone degradation. Research using OSCAR antibody supports studies in bone metabolism, immune signaling, and inflammatory disease mechanisms.

OSCAR antibody is validated for western blotting, immunohistochemistry, and flow cytometry to detect immunoreceptors involved in osteoclast and immune cell function. NSJ Bioreagents provides OSCAR antibody reagents optimized for studies in bone biology, osteoimmunology, and receptor signaling.

Structurally, Osteoclast-associated immunoglobulin-like receptor contains extracellular Ig-like domains that interact with collagen and intracellular motifs that recruit signaling adapters via Fc receptor gamma chains. This antibody enables examination of OSCAR's role in osteoclast activation and immune crosstalk.

Application Notes

Optimal dilution of the OSCAR antibody should be determined by the researcher.

Immunogen

E.coli-derived human OSCAR recombinant protein (Position: D19-V282) was used as the immunogen for the OSCAR antibody.

Storage

After reconstitution, the OSCAR antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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