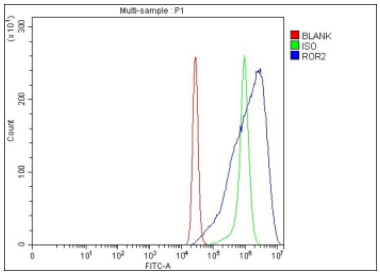
ROR2 Antibody / Receptor tyrosine kinase-like orphan receptor 2 (FY12001)

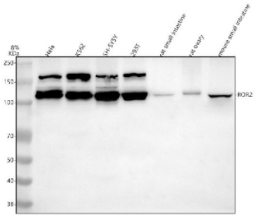
Catalog No.	Formulation	Size
FY12001	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.	100 ug

Bulk quote request

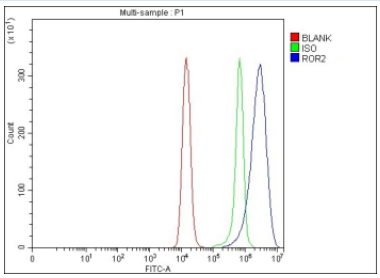
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q01974
Applications	Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This ROR2 antibody is available for research use only.



Flow Cytometry analysis of K562 cells using anti-ROR2 antibody. Overlay histogram showing K562 cells stained with (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with rabbit anti-ROR2 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



Western blot analysis of ROR2 using anti-ROR2 antibody. Lane 1: human Hela whole cell lysates, Lane 2: human K562 whole cell lysates, Lane 3: human SH-SY5Y whole cell lysates, Lane 4: human 293T whole cell lysates, Lane 5: rat small intestine tissue lysates, Lane 6: rat ovary tissue lysates, Lane 8: mouse small intestine 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-ROR2 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 enhanced chemiluminescent. The expected band size for ROR2 is at 105 kDa but may be observed at higher molecular weights due to glycosylation.



Flow Cytometry analysis of Raji cells using anti-ROR2 antibody. Overlay histogram showing Raji cells stained with (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with rabbit anti-ROR2 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

Description

ROR2 antibody detects Receptor tyrosine kinase-like orphan receptor 2, encoded by the ROR2 gene. Receptor tyrosine kinase-like orphan receptor 2 is a transmembrane protein that belongs to the receptor tyrosine kinase family and is an important regulator of development, cell signaling, and skeletal formation. ROR2 antibody provides researchers with a specific reagent for studying Wnt signaling pathways, embryogenesis, and disease processes associated with developmental abnormalities.

Receptor tyrosine kinase-like orphan receptor 2 contains an extracellular cysteine-rich domain, an immunoglobulin-like domain, and a tyrosine kinase-like cytoplasmic domain. Research using ROR2 antibody has shown that it functions as a receptor for non-canonical Wnt signaling, particularly Wnt5a. Activation of ROR2 modulates cytoskeletal dynamics, cell migration, and planar cell polarity signaling. These activities are essential for tissue morphogenesis during development.

Studies with ROR2 antibody have revealed that mutations in the ROR2 gene cause developmental disorders such as Robinow syndrome and brachydactyly type B. These conditions are characterized by skeletal malformations, short stature, and craniofacial abnormalities. Research into patient-derived cells has demonstrated that loss of ROR2 disrupts Wnt signaling, impairing cartilage development and bone growth. These findings highlight the essential role of ROR2 in skeletal patterning.

In cancer biology, ROR2 has emerged as a regulator of tumor progression. Research using ROR2 antibody has demonstrated that ROR2 promotes migration and invasion in melanoma, renal cell carcinoma, and osteosarcoma. Overexpression correlates with poor prognosis, likely due to its ability to activate signaling pathways that remodel the cytoskeleton and extracellular matrix. Targeting ROR2 is under investigation as a therapeutic strategy in oncology.

ROR2 antibody is widely applied in western blotting, immunohistochemistry, and flow cytometry. Western blotting detects full-length receptor and truncated isoforms, immunohistochemistry localizes expression to developing skeletal tissues and tumors, and flow cytometry quantifies receptor surface expression on cells. These applications make ROR2 antibody indispensable for developmental biology and cancer research.

By supplying validated ROR2 antibody reagents, NSJ Bioreagents supports studies into skeletal development, Wnt signaling, and cancer. Detection of Receptor tyrosine kinase-like orphan receptor 2 provides researchers with insights into

how receptor tyrosine kinases integrate developmental cues with disease processes.

Application Notes

Optimal dilution of the ROR2 antibody should be determined by the researcher.

Immunogen

E.coli-derived human ROR2 recombinant protein (Position: E499-Q547) was used as the immunogen for the ROR2 antibody.

Storage

After reconstitution, the ROR2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.