

**DESCRIPTION**

<b>Source</b>	Mouse myeloma cell line, NS0-derived		
	Human ROR2 (Val28-Gly403) Accession # AAI30523	IEGRMD	Human IgG <sub>1</sub> (Pro100-Lys330)
	N-terminus		C-terminus
<b>N-terminal Sequence Analysis</b>	Val28		
<b>Structure / Form</b>	Disulfide-linked homodimer		
<b>Predicted Molecular Mass</b>	69 kDa		

**SPECIFICATIONS**

<b>SDS-PAGE</b>	80-92 kDa, reducing conditions
<b>Activity</b>	Measured by its binding ability in a functional ELISA. Measured by its ability to bind biotinylated Recombinant human/mouse Wnt-5a in a functional ELISA. The ED <sub>50</sub> for this effect is 1.5-9 µg/mL.
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the protein by the LAL method.
<b>Purity</b>	>90%, by SDS-PAGE with silver staining.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 100 µg/mL in PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <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>● 3 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**BACKGROUND**

ROR2 (Receptor Tyrosine Kinase-like Orphan Receptor 2) is a member of the ROR family of receptor tyrosine kinases and is important for skeletal development, including bone and cartilage formation, as well as for the development of the central nervous system (1-5). Mature human ROR2 contains a 369 amino acid (aa) extracellular domain (ECD) and a 518 aa cytoplasmic tail containing a tyrosine kinase domain. The ROR2 ECD features an immunoglobulin domain, a cysteine-rich domain that resembles the Wnt-binding sites of Frizzled proteins, and a kringle domain. The ECD of human ROR2 shares 93% and 94% aa sequence identity with the ECD of mouse and rat ROR2, respectively. ROR2 binds the Wnt family ligand, Wnt-5a, to activate non-canonical Wnt signaling pathways (6-8). ROR2 is broadly expressed during embryonic development and can be found in cells of all three germ layers as well as in most organ tissues (9, 10). Activation of ROR2 signaling promotes cellular proliferation, differentiation, cell-polarization, and migration. ROR2 is important for osteogenic and chondrogenic differentiation of mesenchymal stem cells (11, 12). Mutations in ROR2 are associated with the skeletal disorders, brachydactyly type B and Robinow syndrome (6). ROR2 is also involved in neurite outgrowth and synapse development in the brain (4). A variety of tumors have been found to over-express ROR2. Depending upon the cellular context, ROR2 can act as a tumor suppressor or promoter (13). Expression of ROR2 within carcinomas is correlated with a poor prognosis of survival and increased rates of recurrence (14-16).

**References:**

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