

**DESCRIPTION**

<b>Source</b>	Mouse myeloma cell line, NS0-derived mouse OSCAR protein		
	Mouse OSCAR (Asp19-Asn228) Accession # Q8VBT3	IEGRMD	Human IgG <sub>1</sub> (Pro100-Lys330)
	N-terminus		C-terminus
<b>N-terminal Sequence Analysis</b>	Asp19		
<b>Structure / Form</b>	Disulfide-linked homodimer		
<b>Predicted Molecular Mass</b>	49 kDa		

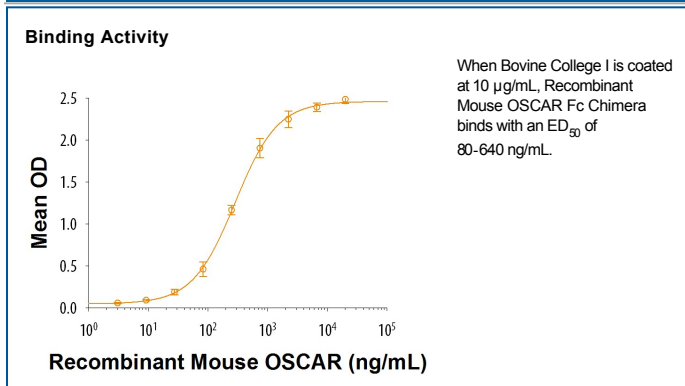
**SPECIFICATIONS**

<b>SDS-PAGE</b>	56-66 kDa, reducing conditions
<b>Activity</b>	Measured by its binding ability in a functional ELISA. When Bovine Collagen I is coated at 10 µg/mL, Recombinant Mouse OSCAR Fc Chimera binds with an ED <sub>50</sub> of 80-640 ng/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 visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 500 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>	<ul style="list-style-type: none"> <li>● 12 months from date of receipt, ≤ -20 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 3 months, ≤ -20 °C under sterile conditions after reconstitution.</li> </ul>

**DATA**



**BACKGROUND**

OSCAR (Osteoclast-associated immunoglobulin-like receptor), is a type I transmembrane protein of the leukocyte receptor complex (LRC) family (1). The mature mouse OSCAR includes a 213 amino acid (aa) extracellular domain (ECD) with two Ig domains homology to PIR family proteins, a 17 aa transmembrane region, and a 17 aa cytoplasmic domain. The ECD of mouse OSCAR shares 77% and 84% aa sequence identity with the ECD of human and rat OSCAR, respectively (2). OSCAR is specifically expressed by pre-osteoclasts and signals via FcR gamma (3). OSCAR co-stimulates one of the major FcR gamma-associated pathways required for osteoclastogenesis *in vivo* (3). Collagen type I and collagen type II serve as ligands for OSCAR (4). OSCAR binds to specific motifs within fibrillary collagens in the extracellular matrix (ECM) (3). OSCAR promoted osteoclastogenesis *in vivo*, and its binding to the collagen motif led to signaling that increased numbers of osteoclasts in culture (3). OSCAR contains two Ig domains, D1 and D2. Direct binding assays on OSCAR molecules showed that D2, but not D1, is critical for collagen binding (5). OSCAR may contribute to the pathogenesis and severity of a number of diseases including osteoporosis, atherosclerosis, chronic obstructive pulmonary disease and rheumatoid arthritis (5).

**References:**

1. Kim, N. *et al.* (2002) J. Exp. Med. **195**:201.
2. Haywood, J. *et al.* (2016) Proc. Natl. Acad. Sci. USA **113**:1038.
3. Barrow, A.D. *et al.* (2011) J. Clin. Invest. **121**:3505.
4. Shultz, H.S. *et al.* (2016) Eur. J. Immunol. **46**:952.
5. Zhou, L. *et al.* (2016) Blood **127**:529.