Recombinant Mouse VSIG4 His-tag

Catalog Number: 9747-VS

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived His20-Pro187, with a C-terminal 6-His tag Accession # NP_808457
N-terminal Sequence Analysis	His20
Predicted Molecular Mass	20 kDa

SPECIFICATIONS

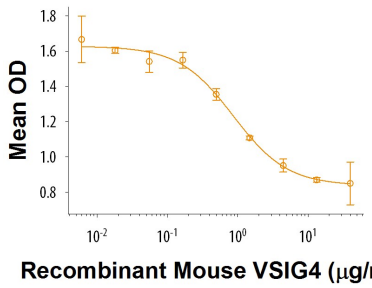
SDS-PAGE	29-38 kDa, reducing conditions
Activity	Measured by its ability to inhibit anti-CD3 antibody induced IFN-gamma secretion by human peripheral blood mononuclear cells (PBMC). The ED_{50} for this effect is 0.5-2.5 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 200 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

DATA

Bioactivity



Recombinant Mouse VSIG4 (Catalog # 9747-VS) inhibits IFN-γ secretion by human peripheral blood mononuclear cells in the presence of anti-CD3 antibody. The ED_{50} for this effect is 0.5-2.5 µg/mL.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

Recombinant Mouse VSIG4 His-tag

Catalog Number: 9747-VS

BACKGROUND

VSIG4 (Vset and immunoglobulin domain containing 4), also known as complement receptor immunoglobulin (CRIg) and Z39IG, is a 45 kDa, type I transmembrane protein of the B7 family within the Ig superfamily that is expressed only in tissue resident macrophages (1-4). The gene is located on the X chromosome (2). Mouse VSIG4 is synthesized as a 280 amino acid (aa) precursor that contains a signal sequence, an IgV-type immunological domain, one potential N-linked glycosylation site, and a single transmembrane domain (4). The IgV domain of mouse VSIG4 shares 86% and 80% aa sequence identity with the IgV domains of rat and human VSIG4, respectively. VSIG4 is specifically expressed on macrophages in the thymic medulla, peritoneum, alveoli, synovia, adipose and heart, liver Kupffer cells, placental Hofbauer cells, and atherosclerotic foam cells (1-4, 6-9). It is absent on infiltrating macrophages (8). VSIG4 is a complement receptor that binds C3b and iC3b fragments, internalizes them to recycling endosomes, and is recycled to the cell surface (4, 6). It contributes significantly to innate immunity by binding and phagocytosis of complement opsonized invading pathogens (4, 8, 10). Binding of either native or recombinant soluble VSIG4 to C3b inhibits complement amplification through the alternative, but not classical, pathway (10, 11). VSIG4 is also a negative regulator of mouse and human T cell activation (2). Although VSIG4 engagement may activate NFκB and thus be proinflammatory in some cases, many of its activities are important in resolving, rather than initiating, inflammation (1, 2, 7, 10, 11). There is emerging evidence in human conditions that VSIG-4 may be a valuable biomarker in infection and immunity, inflammatory conditions and cancer prognosis (12-14).

References:

1. He, J.Q. *et al.* (2008) Mol. Immunol. **45**:4041.
2. Vogt, L. *et al.* (2006) J. Clin. Invest. **116**:2817.
3. Langnaese, K. *et al.* (2000) Biochim. Biophys. Acta **1492**:522.
4. Helmy, K.Y. *et al.* (2006) Cell **124**:915.
5. Entrez protein Accession # EAX05393, NP_001093901, CAI42052, CAI4205, EAX05394.
6. Tanaka, M. *et al.* (2008) Clin. Exp. Immunol. **154**:38.
7. Lee, M.Y . *et al.* (2006) J. Leukoc. Biol. **80**:922.
8. Gorgani, N.N. *et al.* (2008) J. Immunol. **181**:7902.
9. Walker, M.G. (2002) Biochim. Biophys. Acta **1574**:387.
10. Wiesmann, C. *et al.* (2006) Nature **444**:217.
11. Katschke, K.J. *et al.* (2007) J. Exp. Med. **204**:1319.
12. Small, A.G. *et al.* (2016) Swiss Med. Wkly. **146**:w14301.
13. Roh J., *et al.* (2017) Oncotarget **8**:58122.
14. Kim K.H., *et al.* (2016) Autophagy **12**:1647.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 **Canada** TEL 855 668 8722 **China** TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449