Recombinant Mouse FCRL5/FcRH3

Catalog Number: 6757-FC

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived mouse FCRL5/FcRH5 protein Met1-Ala496 with a C-terminal 6-His tag Accession # NP_899045
N-terminal Sequence Analysis	No results obtained: Gln27 predicted
Predicted Molecular Mass	53.5 kDa

SPECIFICATIONS

SDS-PAGE	65-80 kDa, reducing conditions
Activity	Measured by its ability to bind mouse IgG with an estimated K_D <400 nM.
Endotoxin Level	<0.01 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 100 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.

BACKGROUND

Fc Receptor-Like 5 (FCRL5), also known as FcRH3 (FcRH5 in human), IRTA2, and CD307e, is a 90 - 95 kDa member of the FCRL family of proteins whose amino acid (aa) sequence is reminiscent of that for classical Fc receptors. FCLR molecules are type 1 transmembrane proteins that contain from three to nine immunoglobulin-like domains. They are differentially expressed within the B cell lineage, and can either promote or inhibit B cell proliferation and activation (1, 2, 3). Mature mouse FCRL5 consists of a 470 aa extracellular domain (ECD), a 21 aa transmembrane segment, and a 79 aa cytoplasmic region. The ECD contains five Ig-like domains, while the cytoplasmic region possesses one ITAM-like motif and one immunotyrosine inhibitory motif (ITIM) (1, 3, 4). There are two major alleles for FCLR5 in mouse. The first was just described, and is found in BALB/c plus NZB mouse strains. The second is found in C57BL/6 mice, and differs by eleven scattered aa in the ECD. This creates one additional N-linked glycosylation site, and increases the SDS-PAGE MW by 5 kDa (3). Alternate splicing of mouse FCRL5 generates at least one additional isoform that lacks the first Ig-like domain (aa 3 - 90 of the mature molecule) (4). Human FCRL5, by contrast, contains up to nine Ig-like domains in a highly variable ECD, and over common regions, mouse and human FCRL5 share 49% aa sequence identity. CRL5 expression is restricted to mature B lineage cells in lymphoid tissues and blood, and is particularly noted to be expressed on T-independent marginal zone and B1 B cells (3 - 8). Its ligation inhibits signaling through the B cell antigen receptor (9). Epstein-Barr virus transformation of B cells induces the up-regulation of surface FCRL5 by a direct effect of its EBNA2 protein on FCRL5 gene transcription (10). FCRL5 on B cells functions as a receptor for the orthopoxvirus MHC class I-like protein OMCP (11). And based on the literature and R&D Systems testing, both mouse and human FCRL5 will bind to purified IgG with high affinity (5). In human, the FCRL5 gene maps to the 1q21 chromosomal locus, a common site of rearrangements in B cell malignancies. Notably, the FCRL5 protein is preferentially expressed in cell lines with 1q21 abnormalities, and is up-regulated on tumor cells in some types of B cell malignancies (5, 7, 12 - 14). In addition, soluble FCRL5 is elevated in the serum of many B cell leukemia patients (13, 15).

References:

1. Davis, R.S. (2007) Annu. Rev. Immunol. **25**:525.
2. Maltais, L.J. *et al.* (2006) Nat. Immunol. **7**:431.
3. Won, W-J. *et al.* (2006) J. Immunol. **177**:6815.
4. Davis, R.S. *et al.* (2004) Int. Immunol. **16**:1343.
5. Hatzivassiliou, G. *et al.* (2001) Immunity **14**:277.
6. Miller, I. *et al.* (2002) Blood **99**:2662.
7. Polson, A.G. *et al.* (2006) Int. Immunol. **18**:1363.
8. Vidal-Laliena, M. *et al.* (2005) Cell. Immunol. **236**:6.
9. Haga, C.L. *et al.* (2007) Proc. Natl. Acad. Sci. **104**:9770.
10. Mohan, J. *et al.* (2006) Blood **107**:4433.
11. Campbell, J.A. *et al.* (2010) J. Immunol. **185**:28.
12. Ise, T. *et al.* (2005) Clin. Cancer Res. **11**:87.
13. Ise, T. *et al.* (2007) Leukemia **21**:169.
14. Kazemi, T. *et al.* (2009) Cancer Immunol. Immunother. **58**:989.
15. Ise, T. *et al.* (2006) Clin. Chem. Lab. Med. **44**:594.

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