Recombinant Human Dectin-2/CLEC6A

Catalog Number: 3114-DC

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived human Dectin-2/CLEC6A protein Thr46-Leu209, with an N-terminal 6-His tag Accession # Q6EIG7
N-terminal Sequence Analysis	His
Predicted Molecular Mass	19.7 kDa

SPECIFICATIONS

SDS-PAGE	20-24 kDa, reducing conditions
Endotoxin Level	<1.0 EU per 1 µg of the protein by the LAL method.
Purity	>90%, by SDS-PAGE under reducing conditions and visualized by silver stain.
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 sterile 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

Dectin-2, also known as CLEC6A, CLECSF10, and NKCL, belongs to the C-type lectin family of transmembrane immune regulatory glycoproteins. Dectin-2, plus CLEC4A-E constitute a subgroup of molecules that exhibit approximately 40% amino acid (aa) sequence identity in their extracellular domains (ECD), and have a conserved cysteine spacing in their carbohydrate recognition domains (CRD) (1, 2). Mature human Dectin-2 is a type II transmembrane protein with a short cytoplasmic tail, a transmembrane segment, and a 168 aa ECD with a stalk region and one CRD (3, 4). Within the ECD, human Dectin-2 shares 71% and 75% aa sequence identity with bovine and mouse Dectin-2, respectively. An alternately spliced β isoform has a deletion of portions of the transmembrane and cytoplasmic regions (5). Full length Dectin-2 is a 27 kDa molecule that is expressed on monocytes, tissue macrophages, and activated $CD4^+$ T cells (4 - 6). The CRD of Dectin-2 contains an EPN motif which is characteristic of calcium-dependent mannose-binding lectins. Dectin-2 selectively interacts with high mannose structures in the $Man_9GlcNAc_2$ configuration (7). It mediates the recognition of a variety of microorganisms, particularly the filamentous forms of yeast and fungii (7, 8). The short cytoplasmic tail does not contain signaling motifs but mediates association with the ITAM-containing Fc receptor γ subunit on macrophages (8). Ligation of Dectin-2 induces tyrosine phosphorylation of the γ subunit, activation of NFκB, and enhanced release of TNF-α and IL-1ra (8). Macrophage Dectin-2 is upregulated *in vivo* by inflammatory stimuli and UV-B irradiation (5, 6, 9). Dectin-2 is known to participate in UV-induced immunosuppression by interacting with $CD4^+CD25^+$ regulatory T cells, which then induce dendritic cells to release IL-4, IL-10, and TGF-β (10).

References:

1. Kanazawa, N. (2007) J. Dermatol. Sci. **45**:77.
2. Kanazawa, N. *et al.* (2004) Immunobiology **209**:179.
3. Flornes, L.M. *et al.* (2004) Immunogenetics **56**:506.
4. Kanazawa, N. *et al.* (2004) J. Invest. Dermatol. **122**:1522.
5. Gavino, A.C. *et al.* (2005) Exp. Dermatol. **14**:281.
6. Taylor, P.R. *et al.* (2005) Eur. J. Immunol. **35**:2163.
7. McGreal, E.P. *et al.* (2006) Glycobiology **16**:422.
8. Sato, K. *et al.* (2006) J. Biol. Chem. **281**:38854.
9. Bonkobara, M. *et al.* (2005) Photochem. Photobiol. **81**:944.
10. Aragane, Y. *et al.* (2003) J. Immunol. **171**:3801.

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