

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Ficolin-3 Isoform 2 in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant human Ficolin-2 is observed.
Source	Monoclonal Mouse IgG _{2B} Clone # 296134
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Ficolin-3 Isoform 2 Lys22-Arg288 Accession # NP_775628
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	1 µg/mL	Recombinant Human Ficolin-3 (Catalog # 2367-FC)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Human Ficolin-3 (fibrinogen/collagen-like), also called H-ficolin and, previously, Hakata antigen or thermolabile β-2 macroglycoprotein, is a member of the ficolin family of secreted pattern recognition proteins that belong to the lectin complement activation pathway (1, 2). Ficolin-3 is expressed by bile duct epithelial cells and hepatocytes, and is released into the bile and circulation, where it averages 18 µg/mL (3, 4). It is also secreted by bronchial and alveolar epithelial cells in the lung (3). Mature human Ficolin-3 shares 46% and 52% amino acid (aa) identity with human Ficolin-1 and Ficolin-2, respectively. Ficolin-3 has only been identified in primates and is likely a pseudogene in other species (5). The 35 kDa, 288 aa human Ficolin-3 (isoform 2) contains a signal sequence, an N-terminal collagen domain and a C-terminal fibrinogen-like domain that includes a calcium binding site and two potential N-glycosylation sites. Isoform 1 contains an additional 11 aa between the collagen and fibrinogen-like domains. The collagen domain mediates trimer formation, and a ~650 kDa, 18 subunit oligomer is formed by disulfide links at the N-terminus (2, 6, 7). Ficolin-3 binds a limited set of carbohydrates containing mannose, galactose or D-fucose (2, 6). Binding of microbial carbohydrates has been clearly demonstrated only for the PSA antigen of *Aerococcus viridans* (4, 8, 9). Pathogen recognition initiates an immune response involving the calcium-dependent interaction of Ficolin-3 with the MBL-associated serine protease (MASP) complex. This cleaves C4 to activate the complement pathway (4, 9). In a secondary role, Ficolins 2 and 3 bind apoptotic cells, activating complement cascades that assist in clearance of the cells (10). Circulating antibodies to Ficolin-3 have been identified in systemic lupus erythematosus (7).

References:

1. Endo, Y. *et al.* (2006) *Adv. Exp. Med. Biol.* **586**:265.
2. Sugimoto, R. *et al.* (1998) *J. Biol. Chem.* **273**:20721.
3. Akaiwa, M. *et al.* (1999) *J. Histochem. Cytochem.* **47**:777.
4. Krarup, A. *et al.* (2005) *Inf. Immun.* **72**:1052.
5. Endo, Y. *et al.* (2004) *Genomics* **84**:737.
6. Garlatti, V. *et al.* (2007) *EMBO J.* **26**:623.
7. Yae, Y. *et al.* (1991) *Biochim. Biophys. Acta* **1078**:369.
8. Tsujimura, M. *et al.* (2001) *Clin. Diag. Lab. Immunol.* **8**:454.
9. Matsushita, M. *et al.* (2002) *J. Immunol.* **168**:3502.
10. Kuraya, M. *et al.* (2005) *Immunobiology* **209**:689.