

DESCRIPTION

| | |
|---------------------------|---|
| Species Reactivity | Human |
| Specificity | Detects a synthetic peptide specific for human CD163 around amino acid 240 in Direct ELISA. |
| Source | Monoclonal Mouse IgG ₁ Clone # 1111605 |
| Purification | Protein A or G purified from hybridoma culture supernatant |
| Immunogen | Synthetic Peptide Accession # Q86VB7 |
| Conjugate | Alexa Fluor 350 Excitation Wavelength: 346 nm Emission Wavelength: 442 nm |
| Formulation | Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |

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.

| | |
|-----------------------------|--|
| Immunohistochemistry | Optimal dilution of this antibody should be experimentally determined. |
|-----------------------------|--|

PREPARATION AND STORAGE

| | |
|--------------------------------|---|
| Shipping | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| Stability & Storage | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied |

BACKGROUND

CD163, previously called M130 or p155, is a 130-160 kDa type I transmembrane glycoprotein that belongs to group B of the cysteine-rich scavenger receptor family (1-3). It is essential for clearance of hemoglobin-haptoglobin (Hb-Hp) complexes in the liver, spleen and circulation (4). The human CD163 contains a 41 amino acid (aa) signal sequence, a 1009 aa extracellular domain (ECD) with 9 scavenger receptor cysteine-rich (SRCR) domains, a 22 aa transmembrane segment, and a 39-84 aa cytoplasmic region (1). The third SRCR domain is crucial for calcium-dependent binding of hemoglobin/haptoglobin complexes (3). Three splice forms (isoforms 2, 3 and 4) vary within their intracellular regions (1, 5), while one isoform (# 4) also has a 34 aa insert between SRCR domains 5 and 6 within the ECD. While all are expressed, isoform 3 is the most abundant, being generally expressed on the cell surface and most active in endocytosis (5). An approximately 130 kDa soluble form of human CD163 (sCD163) is assumed to contain virtually all of the ECD, which shares 74%, 75%, 84%, 86%, 86% and 87% aa identity with mouse, rat, bovine, equine, porcine and canine CD163 ECD, respectively (6, 7). It is released from the cell surface by proteolysis after oxidative stress or inflammatory stimuli, including bacterial endotoxins and activation of the Toll-like receptors TLR2 or TLR5 (7-10). Expression of CD163 is constitutive, and induced by glucocorticoids, IL-10, IL-6 or endotoxin on circulating monocytes, tissue macrophages, and at low levels on monocyte-derived dendritic cells (1, 2, 11, 12). In addition to clearing Hb-Hp complexes, CD163 is also a scavenger receptor for free Hb (if Hp is depleted) and TWEAK (TNF-like weak inducer of apoptosis), and can function as an erythroblast adhesion receptor (4, 13-15).

References:

1. Law, S.K.A. *et al.* (1993) *Eur. J. Immunol.* **23**:2320.
2. Sulahian, T.H. *et al.* (2000) *Cytokine* **12**:1312.
3. Madsen, M. *et al.* (2004) *J. Biol. Chem.* **279**:51561.
4. Kristiansen, M. *et al.* (2001) *Nature* **409**:198.
5. Nielsen, M.J. *et al.* (2006) *J. Leukoc. Biol.* **79**:837.
6. Moller, H.J. *et al.* (2002) *Blood* **99**:378.
7. Droste, A. *et al.* (1999) *Biochem. Biophys. Res. Commun.* **256**:110.
8. Hintz, K. A. *et al.* (2002) *J. Leukoc. Biol.* **72**:711.
9. Weaver, L.K. *et al.* (2006) *J. Leukoc. Biol.* **80**:26.
10. Timmerman, M. and P. Hogger (2005) *Free Radic. Biol. Med.* **39**:98.
11. Buechler, C. *et al.* (2000) *J. Leukoc. Biol.* **67**:97.
12. Pulford, K.A. *et al.* (1989) *J. Clin. Pathol.* **42**:414.
13. Schaer, D.J. *et al.* (2006) *Blood* **107**:373.
14. Bover, L.C. *et al.* (2007) *J. Immunol.* **178**:8183.
15. Fabriek, B.O. *et al.* (2007) *Blood* **109**:5223.

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.
