

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CD163 in direct ELISAs and Western blots.
Source	Monoclonal Mouse IgG ₁ Clone # 215927
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human CD163 Gly46-Ser1050 Accession # Q86VB7
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *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.

	Recommended Concentration	Sample
Flow Cytometry	0.25-1 µg/10 ⁶ cells	Human whole blood monocytes

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.

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