SANTA CRUZ BIOTECHNOLOGY, INC.

CD163 (RM3/1): sc-33715

SANTA CRUZ® BIOTECHNOLOGY

The Power to Question

BACKGROUND

CD163, also designated M130, is a macrophage-associated antigen that is a member of the scavenger receptor cysteine-rich (SRCR) superfamily. It is highly expressed on macrogphages and to a lesser extent on monocytes. The acute phase-regulated and signal-inducing macrophage protein, CD163, is a receptor that scavenges hemoglobin by mediating endocytosis of haptoglobin-hemoglobin complexes. CD163 binds only haptoglobin and hemoglobin in complex, which indicates the exposure of a receptor-binding neoepitope. The receptor-ligand interaction is calcium-dependent and of high affinity. The existence of several CD163 isoforms, which differ in the structure of their cytoplasmic domains and putative phosphorylation sites, suggests that these isoforms also differ in their signaling mechanism. The gene which encodes CD163 maps to human chromosome 12p13.31.

CHROMOSOMAL LOCATION

Genetic locus: CD163 (human) mapping to 12p13.31.

SOURCE

CD163 (RM3/1) is a mouse monoclonal antibody raised against monocytes of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD163 (RM3/1) is available conjugated to agarose (sc-33715 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-33715 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-33715 PE), fluorescein (sc-33715 FITC), Alexa Fluor® 488 (sc-33715 AF488), Alexa Fluor® 546 (sc-33715 AF546), Alexa Fluor® 594 (sc-33715 AF594) or Alexa Fluor® 647 (sc-33715 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-33715 AF680) or Alexa Fluor® 790 (sc-33715 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

CD163 (RM3/1) is recommended for detection of CD163 of human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immuno-histochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for CD163 siRNA (h): sc-42834, CD163 shRNA Plasmid (h): sc-42834-SH and CD163 shRNA (h) Lentiviral Particles: sc-42834-V.

Molecular Weight of CD163: 130 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 2) Immuno-histochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.
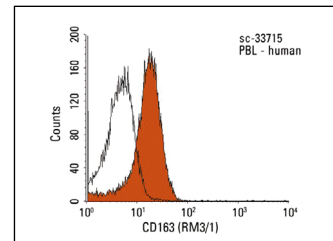
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA
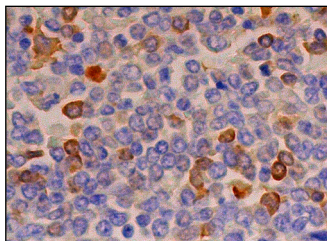
CD163 (RM3/1): sc-33715. Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing cytoplasmic and membrane staining of subset of cells in white pulp and subset of cells in red pulp.

CD163 (RM3/1): sc-33715. Indirect FCM analysis of human peripheral blood leukocytes stained with CD163 (RM3/1), followed by PE-conjugated goat anti-mouse IgG_1: sc-3764. Black line histogram represents the isotype control, normal mouse IgG_1: sc-3877.

SELECT PRODUCT CITATIONS

1. Tsianakas, A., et al. 2012. Induction of an anti-inflammatory human monocyte subtype is a unique property of glucocorticoids, but can be modified by IL-6 and IL-10. Immunobiology 217: 329-335.

2. Bernsmeier, C., et al. 2015. Patients with acute-on-chronic liver failure have increased numbers of regulatory immune cells expressing the receptor tyrosine kinase MERTK. Gastroenterology 148: 603-615.e14.

3. Alvarado-Vazquez, P.A., et al. 2017. Macrophage-specific nanotechnology-driven CD163 overexpression in human macrophages results in an M2 phenotype under inflammatory conditions. Immunobiology 222: 900-912.

4. Gao, L., et al. 2018. Tumor associated macrophages induce epithelial to mesenchymal transition via the EGFR/ERK1/2 pathway in head and neck squamous cell carcinoma. Oncol. Rep. 40: 2558-2572.

5. Sun, C., et al. 2020. ADAM17-regulated CX3CL1 expression produced by bone marrow endothelial cells promotes spinal metastasis from hepato-cellular carcinoma. Int. J. Oncol. 57: 249-263.

6. Bolognesi, M.M., et al. 2021. Antibodies validated for routinely processed tissues stain frozen sections unpredictably. Biotechniques 70: 137-148.

7. Zhou, W.H., et al. 2022. CC chemokine receptor 7 promotes macrophage recruitment and induces M2-polarization through CC chemokine ligand 19&21 in oral squamous cell carcinoma. Discov. Oncol. 13: 67.

8. Hao, Y., et al. 2023. Critical role of the sulfiredoxin-peroxiredoxin IV axis in urethane-induced non-small cell lung cancer. Antioxidants 12: 367.

9. Lucarelli, G., et al. 2023. MUC1 expression affects the immunoflogosis in renal cell carcinoma microenvironment through complement system activation and immune infiltrate modulation. Int. J. Mol. Sci. 24: 4814.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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