

Monocytes Marker (ER-HR3): sc-52706

BACKGROUND

A monocyte is a leukocyte produced by the bone marrow from haematopoietic stem cell precursors called monoblasts. Monocytes circulate in the bloodstream and move into tissues throughout the body, where they protect against blood-borne pathogens. Monocytes are responsible for phagocytosis (ingestion) of foreign substances by using intermediary proteins such as antibodies or complements that coat the pathogen, or they can bind directly to the microbe through pattern-recognition receptors that recognize pathogens. Monocytes are also capable of killing infected host cells through a process termed antibody-mediated cellular cytotoxicity. Monocytes that migrate from the bloodstream to other tissues are called macrophages. Macrophages possess a large smooth nucleus, a large area of cytoplasm and many internal vesicles for processing foreign material. Macrophages are suspected to be the predominant cells involved in triggering atherosclerosis. Specific antigens expressed on sets of monocytes or macrophages may aid in the identification of these types of cells.

REFERENCES

- Lippi, U., et al. 1984. α -naphthyl butyrate esterase (a selective cytochemical monocyte marker). *Ric. Clin. Lab.* 13: 467-471.
- Silverstein, E., et al. 1988. The leukaemic hairy cell in culture lacks the monocyte marker, angiotensin converting enzyme induction. *Cytobios* 53: 57-62.
- Holness, C.L. and Simmons, D.L. 1993. Molecular cloning of CD68, a human macrophage marker related to lysosomal glycoproteins. *Blood* 81: 1607-1613.
- Rudolph, P., et al. 1997. Im marker Ki-M1p and histogenetic considerations. *Am. J. Surg. Pathol.* 21: 791-800.
- Shi, Y., et al. 1997. An immunohistochemical study of IgG, complement C3, collagen type III and macrophage-marker Ki-M7 in epiretinal membranes. *Yan Ke Xue Bao* 12: 10-14.
- Kunz, M., et al. 1999. Macrophage marker 2 lupus erythematosus and Jessner's lymphocytic infiltration of the skin. *Eur. J. Dermatol.* 9: 107-110.
- Heinemann, D.E., et al. 2000. Human osteoblast-like cells phagocytose metal particles and express the macrophage marker CD68 *in vitro*. *J. Bone Joint Surg. Br.* 82: 283-289.
- Berger, R.P., et al. 2004. Assessment of the macrophage marker quinolinic acid in cerebrospinal f after pediatric traumatic brain injury: insight into the timing and severity of injury in child abuse. *J. Neurotrauma* 21: 1123-1130.
- Kunz-Schughart, L.A., et al. 2006. The "classical" macro-phage marker CD68 is strongly expressed in primary human fibroblasts. *Verh. Dtsch. Ges. Pathol.* 87: 215-223.

SOURCE

Monocytes Marker (ER-HR3) is a rat monoclonal antibody raised against adherent bone marrow cells of mouse origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 μ g IgG_{2c} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Monocytes Marker (ER-HR3) is available conjugated to agarose (sc-52706 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-52706 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-52706 PE), fluorescein (sc-52706 FITC), Alexa Fluor[®] 488 (sc-52706 AF488), Alexa Fluor[®] 546 (sc-52706 AF546), Alexa Fluor[®] 594 (sc-52706 AF594) or Alexa Fluor[®] 647 (sc-52706 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-52706 AF680) or Alexa Fluor[®] 790 (sc-52706 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Monocytes Marker (ER-HR3) is recommended for detection of the majority of blood monocytes and a subset of mature resident macrophages (especially those located in hemopoietic organs) of mouse origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 μ g per 1 x 10⁶ cells); non cross-reactive with other leukocytes.

SELECT PRODUCT CITATIONS

- Hu, N., et al. 2014. Differential expression of granulopoiesis related genes in neutrophil subsets distinguished by membrane expression of CD177. *PLoS ONE* 9: e99671.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.