SANTA CRUZ BIOTECHNOLOGY, INC.

Monocyte/Macrophage Marker (MOMA-2): sc-59332

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

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2. Silverstein, E., et al. 1988. The leukaemic hairy cell in culture lacks the monocyte marker, angiotensin converting enzyme induction. Cytobios 53: 57-62.
3. Holness, C.L. and Simmons, D.L. 1993. Molecular cloning of CD68, a human macrophage marker related to lysosomal glycoproteins. Blood 81: 1607-1613.
4. Rudolph, P., et al. 1997. Immunophenotyping of dermal spindle cell tumors: diagnostic value of monocyte marker Ki-M1p and histogenetic considerations. Am. J. Surg. Pathol. 21: 791-800.
5. 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.
6. Kunz, M., et al. 1999. Macrophage marker 27E10 on human keratinocytes helps to differentiate discoid lupus erythematosus and Jessner's lymphocytic infiltration of the skin. Eur. J. Dermatol. 9: 107-110.
7. 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.
8. Berger, R.P., et al. 2004. Assessment of the macrophage marker quinolinic acid in cerebrospinal fluid after pediatric traumatic brain injury: insight into the timing and severity of injury in child abuse. J. Neurotrauma 21: 1123-1130.

SOURCE

Monocyte/Macrophage Marker (MOMA-2) is a rat monoclonal antibody raised against lymph node stroma of mouse origin.

RESEARCH USE

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

PRODUCT

Each vial contains 100 µg IgG_{2b} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Monocyte/Macrophage Marker (MOMA-2) is recommended for detection of an intracellular antigen of macrophages and monocytes of mouse origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

SELECT PRODUCT CITATIONS

1. Depianto, D., et al. 2010. Keratin 17 promotes epithelial proliferation and tumor growth by polarizing the immune response in skin. Nat. Genet. 42: 910-914.
2. Cudejko, C., et al. 2011. $p16^{INK4a}$ deficiency promotes IL-4-induced polarization and inhibits proinflammatory signaling in macrophages. Blood 118: 2556-2566.
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4. Zhang, W., et al. 2015. Co-treatment of pitavastatin and dexamethasone exacerbates the high-fat diet-induced atherosclerosis in apoE-deficient mice. J. Cardiovasc. Pharmacol. 66: 189-195.
5. Smedlund, K.B., et al. 2015. Increased size and cellularity of advanced atherosclerotic lesions in mice with endothelial overexpression of the human TRPC3 channel. Proc. Natl. Acad. Sci. USA 112: E2201-E2206.
6. Lee, R.H. and Vazquez, G. 2015. Reduced size and macrophage content of advanced atherosclerotic lesions in mice with bone marrow specific deficiency of α7 nicotinic acetylcholine receptor. PLoS ONE 10: e0124584.
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8. Yuan, R., et al. 2016. Low-grade inflammatory polarization of monocytes impairs wound healing. J. Pathol. 238: 571-583.

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.