

Oval Cell Marker (OV-6): sc-101863

BACKGROUND

Stem cells are present in nearly all multi-cellular organisms and are characterized by their ability to self-renew and to differentiate into multiple different cell types. There are two broad types of stem cells, namely adult stem cells, which play an important role in tissue repair and organ maintenance, and embryonic stem cells, which are found in blastocysts and can differentiate to form any and all embryonic tissues. Due to their unique ability to mature into any cell type, stem cells are of particular interest in the treatment of human diseases, including cancer, muscle damage, spinal cord injuries, Parkinson's disease, amyotrophic lateral sclerosis and organ regeneration. Oval cells are hepatic stem cells (stem cells that are liver-specific) that can differentiate into multiple cell types and are implicated in liver development, as well as in the pathogenesis of chronic liver diseases. Oval Cell Marker, also designated OV-6, can be used to detect the presence of oval cells within a particular sample.

REFERENCES

1. Thomson, J.A., et al. 1998. Embryonic stem cell lines derived from human blastocysts. *Science* 282: 1145-1147.
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3. Fukuda, H. and Takahashi, J. 2005. Embryonic stem cells as a cell source for treating Parkinson's disease. *Expert Opin. Biol. Ther.* 5: 1273-1280.
4. Tuch, B.E. 2006. Stem cells—a clinical update. *Aust. Fam. Physician* 35: 719-721.
5. Barrilleaux, B., et al. 2006. Review: *ex vivo* engineering of living tissues with adult stem cells. *Tissue Eng.* 12: 3007-3019.
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7. Wu, D.C., et al. 2007. Embryonic stem cell transplantation: potential applicability in cell replacement therapy and regenerative medicine. *Front. Biosci.* 12: 4525-4535.
8. Wang, Y., et al. 2007. Stem cell transplantation: a promising therapy for Parkinson's disease. *J. Neuroimmune Pharmacol.* 2: 243-250.
9. Rossant, J. 2007. Stem cells: the magic brew. *Nature* 448: 260-262.

SOURCE

Oval Cell Marker (OV-6) is a mouse monoclonal antibody raised against carcinogen-treated nodular hepatocytes of rat origin.

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.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Oval Cell Marker (OV-6) is available conjugated to agarose (sc-101863 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-101863 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-101863 PE), fluorescein (sc-101863 FITC), Alexa Fluor[®] 488 (sc-101863 AF488), Alexa Fluor[®] 546 (sc-101863 AF546), Alexa Fluor[®] 594 (sc-101863 AF594) or Alexa Fluor[®] 647 (sc-101863 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-101863 AF680) or Alexa Fluor[®] 790 (sc-101863 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Oval Cell Marker (OV-6) is recommended for detection of OV-6 antigen of mouse, rat and human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 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.

SELECT PRODUCT CITATIONS

1. Gridelli, B., et al. 2012. Efficient human fetal liver cell isolation protocol based on vascular perfusion for liver cell-based therapy and case report on cell transplantation. *Liver Transpl.* 18: 226-237.
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5. Khanova, E., et al. 2018. Pyroptosis by caspase11/4-gasdermin-D pathway in alcoholic hepatitis in mice and patients. *Hepatology* 67: 1737-1753.
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7. Jin, L., et al. 2023. Expression and significance of histone methyltransferase SET domain containing 2 with Histone H3 lysine 36 trimethylation in mouse hepatic oval cells differentiated into bile duct epithelial cells *in vitro*. *Mol. Med. Rep.* 27: 69.

RESEARCH USE

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