

Anti-Human/Mouse OCT3/4 Alexa Fluor® 488

Catalog Number: 53-5841

Also known as: OCT3, OCT4, octamer-binding transcription factor, POU5F1

RUO: For Research Use Only. Not for use in diagnostic procedures.

Product Information

Contents: Anti-Human/Mouse OCT3/4 Alexa Fluor® 488

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Clone: EM92

Concentration: 0.5 mg/mL

Host/Isotype: Rat IgG2a, kappa

Formulation: aqueous buffer, 0.09% sodium azide, may contain carrier protein/stabilizer

Temperature Limitation: Store at 2-8°C. Do not freeze. Light sensitive material.

Batch Code: Refer to vial

Use By: Refer to vial

Contains sodium azide



Description

The EM92 monoclonal antibody reacts with mouse and human Oct3/4, encoded by the Pou5F1 gene. Oct3/4 is a POU domain-containing transcription factor that is critical for maintaining embryonic stem (ES) and induced pluripotent stem (iPS) cells in a pluripotent state, and is expressed by ES, embryonic germ cells and embryonic carcinoma cell lines. In cells of the inner cell mass (ICM), reduction of Oct3/4 expression causes dedifferentiation to trophoblast, whereas increased expression results in differentiation to mesoderm and primitive endoderm. Oct3/4 regulates the expression of several genes, including FGF-4, UTF1, Sox2, Fbx15, Rex1 and osteopontin through distinct mechanisms. Furthermore, Oct3/4 frequently acts synergistically with Sox2 to regulate target gene expression, as is the case with FGF-4. It has been demonstrated that Oct3/4 expression in ES cells can be negatively regulated by either treatment with retinoic acid, or by removal of leukemia-inhibitory factor (LIF).

Applications Reported

This EM92 antibody has been reported for use in intracellular staining followed by flow cytometric analysis and immunocytochemistry.

Applications Tested

This EM92 antibody has been tested by microscopy or intracellular staining and flow cytometric analysis of F9 cells using the Foxp3 Buffer Set (cat. 00-5523) and protocol. Please see Best Protocols for Staining Protocol (refer to Protocol B: One step protocol for intracellular (nuclear) proteins). This antibody can be used at less than or equal to 1 µg per test. A test is defined as the amount (µg) of antibody that will stain a cell sample in a final volume of 100 µL. Cell number should be determined empirically but can range from 10⁵ to 10⁸ cells/test. This antibody has also been tested by immunocytochemistry on formaldehyde fixed and permeabilized cells at less than or equal to 10 µg/ml. It is recommended that the antibody be carefully titrated for optimal performance in the assay of interest.

References

Okamoto K, Okazawa H, Okuda A, Sakai M, Muramatsu M, Hamada H. A novel octamer binding transcription factor is differentially expressed in mouse embryonic cells. *Cell*. 1990 Feb 9;60(3):461-72.

Pikarsky E, Sharir H, Ben-Shushan E, Bergman Y. Retinoic acid represses Oct-3/4 gene expression through several retinoic acid-responsive elements located in the promoter-enhancer region. *Mol Cell Biol*. 1994 Feb;14(2):1026-38.

Takahashi K, Tanabe K, Ohnuki M, Narita M, Ichisaka T, Tomoda K, Yamanaka S. Induction of pluripotent stem cells from adult human fibroblasts by defined factors. *Cell*. 2007 Nov 30;131(5):861-72

Related Products

00-5521 Foxp3 Fixation/Permeabilization Concentrate and Diluent

00-5523 Foxp3 / Transcription Factor Staining Buffer Set

14-8883 Anti-Human TRA-1-81 (Podocalyxin) Purified (TRA-1-81)

53-4321 Rat IgG2a K Isotype Control Alexa Fluor® 488 (eBR2a)

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