OCT3/4 Monoclonal Antibody (EM92), Alexa Fluor™ 488, eBioscience™

Product Details	
Size	100 µg
Species Reactivity	Human, Mouse
Published Species	Human, Mouse
Host/Isotype	Rat / IgG2a, kappa
Recommended Isotype Control	Rat IgG2a kappa Isotype Control (eBR2a), Alexa Fluor™ 488, eBioscience™
Class	Monoclonal
Type	Antibody
Clone	EM92
Conjugate	Alexa Fluor™ 488
Excitation/Emission Max	499/520 nm
Form	Liquid
Concentration	0.5 mg/mL
Purification	Affinity chromatography
Storage buffer	PBS, pH 7.2
Contains	0.09% sodium azide
Storage conditions	4° C, store in dark, DO NOT FREEZE!
RRID	AB_1210530

Applications	Tested Dilution	Publications
Immunocytochemistry (ICC/IF)	5 µg/mL	3 Publications
Flow Cytometry (Flow)	1 µg/test	5 Publications

Product Specific Information

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 trophoectoderm, 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.

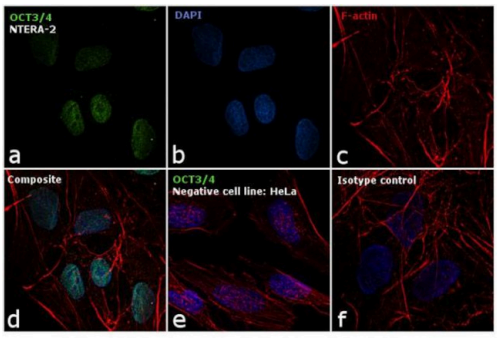
Applications Tested: This EM92 antibody has been tested by microscopy or intracellular staining and flow cytometric analysis of F9 cells using the Foxp3/Transcription Factor Staining Buffer Set (cat. 00-5523) and protocol. Please see Best Protocols for Staining Protocol (refer to Protocol B: One step 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 10^5 to 10^8 cells/test. This antibody has also been tested by immunocytochemistry on formaldehyde fixed and permeabilized cells at less than or equal to 10µg/mL. It is recommended that the antibody be carefully titrated for optimal performance in the assay of interest.

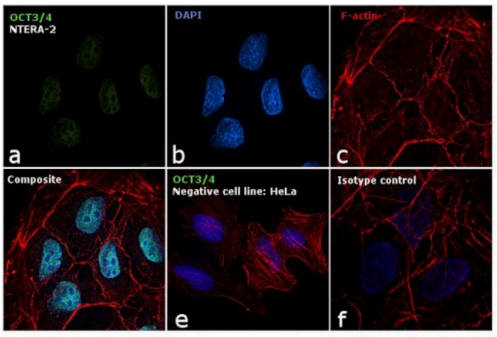
Excitation: 488 nm; Emission: 519 nm; Laser: Blue Laser.

Filtration: 0.2 µm post-manufacturing filtered.

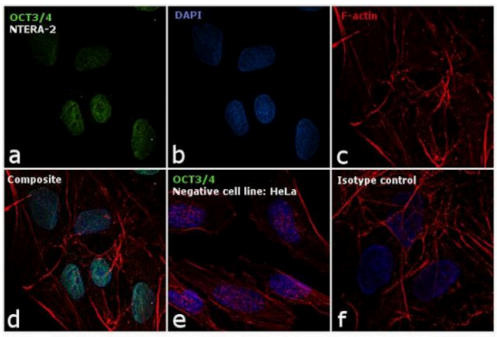
Product Images For OCT3/4 Monoclonal Antibody (EM92), Alexa Fluor™ 488, eBioscience™



OCT3/4 Antibody (53-5841-82) in ICC/IF
Immunofluorescence analysis of OCT3/4 was performed using 70% confluent log phase NTERA-2 cells. The cells were fixed with 4% paraformaldehyde for 10 minutes, permeabilized with 0.1% Triton™ X-100 for 15 minutes, and blocked with 1% BSA for 1 hour at room temperature. The cells were labeled with OCT3 /4 Mouse Monoclonal Antibody (Product # 53-5841-80) at 5 µg/mL in 0.1% BSA, incubated at 4 degree Celsius overnight (Panel a: green). Nuclei (Panel b: blue) were stained with ProLong™ Diamond Antifade Mountant with DAPI (Product # P36962). F-actin (Panel c: red) was stained with Rhodamine Phalloidin (Product # R415, 1:300). Panel d represents the merged image showing nuclear localization. Panel e shows OCT3/4 negative cell line HeLa with no signal. Panel f represents control cells with Isotype control to assess background. The images were captured at 60X magnification.



OCT3/4 Antibody (53-5841-82)
Antibody specificity was demonstrated by detection of differential basal expression of the target across cell models owing to their inherent genetic constitution. Immunofluorescence analysis showed expression of OCT3/4 in NTERA-2 and not in HeLa which is a negative model for OCT3/4 using OCT3/4 Monoclonal Antibody (Product # 53-5841-82). {RE}



OCT3/4 Antibody (53-5841-82)
Antibody specificity was demonstrated by detection of differential basal expression of the target across cell models owing to their inherent genetic constitution. Immunofluorescence analysis showed expression of OCT3/4 in NTERA-2 and not in HeLa which is a negative model for OCT3/4 using OCT3/4 Monoclonal Antibody (Product # 53-5841-80). {RE}

View more figures on thermofisher.com

8 References

Immunocytochemistry (3)

Cell reports methods

Comparative analysis of CI- and CIV-containing respiratory supercomplexes at single-cell resolution.

"Published figure using OCT3/4 monoclonal antibody (Product # 53-5841-82) in Immunocytochemistry"

Authors: Bertan F,Wischhof L,Scifo E,Guranda M,Jackson J,Marsal-Cots A,Piazzesi A,Stork M,Peitz M,Prehn JHM, Ehninger D,Nicotera P,Bano D

Year
2021

Cell reports

Pressure-Driven Mitochondrial Transfer Pipeline Generates Mammalian Cells of Desired Genetic Combinations and Fates.

"Published figure using OCT3/4 monoclonal antibody (Product # 53-5841-82) in Immunocytochemistry"

Authors: Patananan AN,Sercel AJ,Wu TH,Ahsan FM,Torres A,Kennedy SAL,Vandiver A,Collier AJ,Mehrabi A,Van Lew J,Zakin L,Rodriguez N,Sixto M,Tadros W,Lazar A,Sieling PA,Nguyen TL,Dawson ER,Braas D,Golovato J,Cisneros L, Vaske C,Plath K,Rabizadeh S,Niazi KR,Chiou PY,Teitell MA

Year
2020

Species
Human

Dilution
1:10

View more ICC/IF references on thermofisher.com

Flow Cytometry (5)

Neoplasia (New York, N.Y.)

CBP-mediated Wnt3a/-catenin signaling promotes cervical oncogenesis initiated by Piwil2.

"Published figure using OCT3/4 monoclonal antibody (Product # 53-5841-82) in Flow Cytometry"

Authors: Feng D,Yan K,Liang H,Liang J,Wang W,Yu H,Zhou Y,Zhao W,Dong Z,Ling B

Year
2021

Cell reports

Pressure-Driven Mitochondrial Transfer Pipeline Generates Mammalian Cells of Desired Genetic Combinations and Fates.

"Published figure using OCT3/4 monoclonal antibody (Product # 53-5841-82) in Immunocytochemistry"

Authors: Patananan AN,Sercel AJ,Wu TH,Ahsan FM,Torres A,Kennedy SAL,Vandiver A,Collier AJ,Mehrabi A,Van Lew J,Zakin L,Rodriguez N,Sixto M,Tadros W,Lazar A,Sieling PA,Nguyen TL,Dawson ER,Braas D,Golovato J,Cisneros L, Vaske C,Plath K,Rabizadeh S,Niazi KR,Chiou PY,Teitell MA

Year
2020

Species
Human

Dilution
1:10

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More applications with references on thermofisher.com