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Anti-Human OCT4 (OCT3) Antibody, Clone 3A2A20

Mouse monoclonal IgG2b antibody against human OCT4 (OCT3), unconjugated

Catalog #60093.1	25 µg	0.5 mg/mL
Catalog #60093	100 µg	0.5 mg/mL

Product Description

This monoclonal antibody reacts with human octamer-binding transcription factor 4 (OCT4), also known as OCT3 and OCT3/4, an ~40 kDa homeodomain transcription factor belonging to the POU family, which is expressed in undifferentiated human embryonic stem (ES), induced pluripotent stem (iPS), embryonal carcinoma (EC), and embryonic germ (EG) cells. OCT4 binds to the octamer motif 5'- ATTTGCAT-3' and plays a key role in maintaining cells in a pluripotent state by interacting with other transcription factors such as SOX2 to regulate the expression of several genes including FBX15, FGF-4, REX1, SOX2, and osteopontin. OCT4 level is down-regulated during differentiation and it has thus emerged as a useful marker of pluripotency in stem cells, as well as a marker for certain human malignant germ cell tumours. Expression of OCT4 together with other transcription factors has been used to reprogram somatic cells into iPS cells. Multiple isoforms of OCT4 have been observed and in humans at least two are functionally active.

Target Antigen:	OCT4 (OCT3)
Alternative Names:	OCT-3, OCT-4, OCT3, octamer-binding transcription factor 4, POU domain class 5 transcription factor 1, POU5F1
Gene ID:	5460
Species Reactivity:	Human
Host Species:	Mouse
Clonality:	Monoclonal
Clone:	3A2A20
Isotype:	IgG2b, kappa
Immunogen:	Recombinant partial human OCT4 protein (amino acids 1 - 141)
Conjugate:	Unconjugated

Applications

Verified Applications:	FC, ICC, IF, WB
Reported Applications:	ICC, IF, WB
Special Applications:	This antibody clone has been verified for labeling human ES and iPS cells grown in TeSR™-E8™ (Catalog #05940) and mTeSR™1 (Catalog #05850).

Abbreviations: CellSep: Cell separation; ChIP: Chromatin immunoprecipitation; FA: Functional assay; FACS: Fluorescence-activated cell sorting; FC: Flow cytometry; FCXM: Flow cytometric crossmatch assay; FISH: Fluorescence in situ hybridization; ICC: Immunocytochemistry; IF: Immunofluorescence microscopy; IHC: Immunohistochemistry; IHC-F: Immunohistochemistry (frozen-tissue); IHC-P: Immunohistochemistry (paraffin-embedded); IP: Immunoprecipitation; NMR: Nuclear magnetic resonance spectroscopy; RIA: Radioimmunoassay; WB: Western blotting

Properties

Product Formulation:	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide
Purification:	The antibody was purified by affinity chromatography.
Stability and Storage:	Product stable at 2 - 8°C when stored undiluted. Do not freeze. For product expiry date, please contact techsupport@stemcell.com.
Directions for Use:	The suggested use of this antibody is: FC, ≤ 0.1 µg per 1 x 10^6 cells in 100 µL; ICC/IF, ≤ 2.5 µg/mL; WB, ≤ 1 µg/mL. It is recommended that the antibody be titrated for optimal performance for each application.

Data

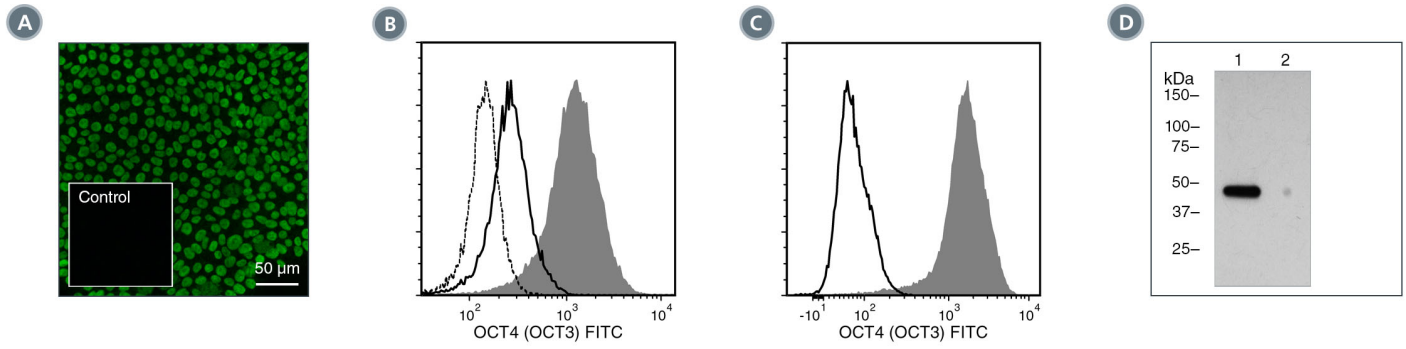

Figure 1. Data for Anti-Human OCT4 (OCT3) Antibody, Clone 3A2A20, Unconjugated

(A) Human iPS cells were cultured with TeSR™-E8™ on glass coverslips coated with Vitronectin XF™ (Catalog #07180), then fixed and stained with Anti-Human OCT4 (OCT3) Antibody, Clone 3A2A20, followed by goat anti-mouse IgG, FITC. Inset shows cells labeled with a mouse IgG2b, kappa isotype control antibody followed by goat anti-mouse IgG, FITC. (B) Flow cytometry analysis of human ES cells cultured with mTeSR™1 on Corning® Matrigel®. The ES cells (filled histogram) or HT1080 fibrosarcoma cells (negative control, dashed line histogram) were fixed and labeled with Anti-Human OCT4 (OCT3) Antibody, Clone 3A2A20, followed by goat anti-mouse IgG, FITC. Labeling of the ES cells with a mouse IgG2b, kappa isotype control antibody followed by goat anti-mouse IgG, FITC is shown (solid line histogram). (C) Flow cytometry analysis of human iPS cells cultured with TeSR™-E8™ on Vitronectin XF™. The cells were fixed and labeled with Anti-Human OCT4 (OCT3) Antibody, Clone 3A2A20, followed by goat anti-mouse IgG, FITC (filled histogram) or a mouse IgG2b, kappa isotype control antibody followed by goat anti-mouse IgG, FITC (solid line histogram). (D) Western blot analysis of denatured/reduced cell lysates with Anti-Human OCT4 (OCT3) Antibody, Clone 3A2A20. Lane 1, human ES cells cultured with mTeSR™1 on Corning® Matrigel®, lane 2 (negative control), mouse E13.5 neural progenitor cells cultured with NeuroCult™ Proliferation Kit (Mouse & Rat, Catalog #05702).

Related Products

For a complete list of antibodies, including other conjugates, sizes, and clones, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/antibodies, or contact us at techsupport@stemcell.com.

References

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