

Technical Data Sheet

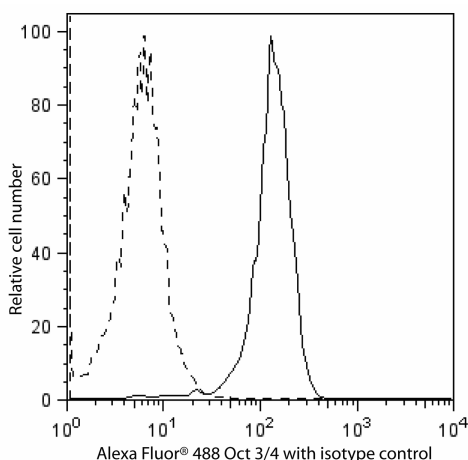
Alexa Fluor® 488 Mouse anti-Oct3/4

Product Information

Material Number:	560253
Alternate Name:	Oct3, OTF3, Oct4, OTF4, POU5F1
Size:	50 tests
Vol. per Test:	20 µl
Clone:	40/Oct-3
Immunogen:	Mouse Oct3 aa. 252-372 Recombinant Protein
Isotype:	Mouse IgG1, κ
Reactivity:	QC Testing: Human Confirmed by western blot using purified antibody (Cat. No. 611202 or 611203) and by Bioimaging (Cat. No. 560217): Mouse
Storage Buffer:	Aqueous buffered solution containing BSA, protein stabilizer, and ≤0.09% sodium azide.

Description

Development of a multicellular organism from a single fertilized cell is regulated by the coordinated activity of DNA transcription factors. Oct3/4, a member of the POU family of transcription factors, functions in pluripotent cells of early embryonic stem cell (ES) lines and embryonal carcinomas (EC). Other members of the POU family include Oct1, Oct2, Pit-1, and unc-86. The POU domain, a 150-amino acid region that determines binding specificity, is conserved among these proteins and consists of 3 subdomains: POU-specific A and B subdomains and a homeobox-like subdomain. Oct3/4 is expressed in undifferentiated cells, but is lost as cells are induced to differentiate. Oct3/4 is not expressed in adult tissues. The interaction of Oct3/4 with SOX2, another embryonic transcription factor, produces an active complex that regulates expression of genes such as Nanog, UTF1, and FGF4. Although Oct3/4 is specifically phosphorylated on serine residues, this modification is not required for DNA binding, but may affect its transactivation potential. Thus, Oct3/4 is a transcription factor that plays an important role in determining early steps of embryogenesis and differentiation.



Flow cytometric analysis of Alexa Fluor® 488 anti Oct3/4 in H9 cells. H9 human embryonic stem (ES) cells (WiCell, Madison, WI) were fixed (BD Cytotfix™ buffer, Cat. No. 554655) for 10 minutes at 37°C, permeabilized with BD Phosflow™ Perm Buffer III (Cat. No. 558050) on ice for 30 minutes, and then stained with either Alexa Fluor® 488 Mouse anti-Oct3/4 (solid line) or Alexa Fluor® 488 Mouse IgG1, κ Isotype Control (Cat. No. 557721, dashed line). Flow cytometry was performed on a BD FACSCanto™ II flow cytometry system.

Preparation and Storage

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

The antibody was conjugated to Alexa Fluor® 488 under optimum conditions, and unreacted Alexa Fluor® 488 was removed.

Application Notes

Application

Intracellular staining (flow cytometry)	Routinely Tested
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Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 ml	(none)
557721	Alexa Fluor® 488 Mouse IgG1 κ Isotype Control	100 tests	MOPC-21

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554655	Fixation Buffer	100 ml	(none)
558050	Perm Buffer III	125 ml	(none)

Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1×10^6 cells in a 100- μ l experimental sample (a test).
2. The Alexa Fluor®, Pacific Blue™, and Cascade Blue® dye antibody conjugates in this product are sold under license from Molecular Probes, Inc. for research use only, excluding use in combination with microarrays, or as analyte specific reagents. The Alexa Fluor® dyes (except for Alexa Fluor® 430), Pacific Blue™ dye, and Cascade Blue® dye are covered by pending and issued patents.
3. Alexa Fluor® 488 fluorochrome emission is collected at the same instrument settings as for fluorescein isothiocyanate (FITC).
4. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/colors.
5. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
6. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
7. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
8. An isotype control should be used at the same concentration as the antibody of interest.
9. Please refer to www.bdbiosciences.com/pharming/en/protocols for technical protocols.

References

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