Technical Data Sheet

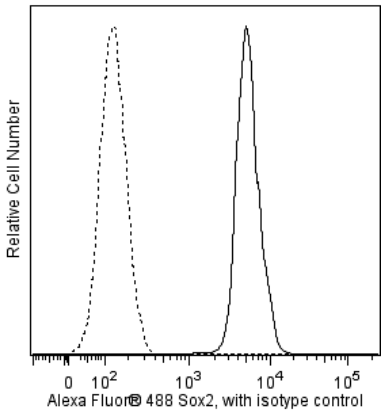
Alexa Fluor® 488 Mouse anti-Sox2

Product Information

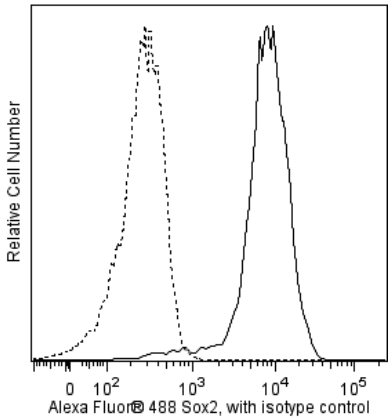
Material Number:	**561593**
Entrez Gene ID:	6657, 20674
Size:	50 tests
Vol. per Test:	5 µl
Clone:	O30-678
Immunogen:	Human Sox2 Recombinant Protein
Isotype:	Mouse (CD) IgG1, κ
Reactivity:	QC Tested: Human Confirmed by western blot using purified antibody (Cat. No. 561469): Mouse
Storage Buffer:	Aqueous buffered solution containing BSA, protein stabilizer, and ≤0.09% sodium azide.

Description

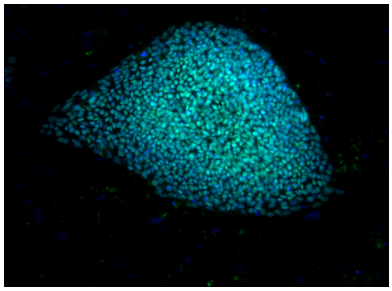
The monoclonal antibody O30-678 recognizes the Sox2 transcription factor. Sox2 [SRY (sex determining region Y)-box 2] is a member of the SRY-related HMG-box (SOX) family of transcription factors. Sox2 is required for the maintenance of the undifferentiated state of pluripotent stem cells. Complexes of Sox2 with the homeobox transcription factors Oct3/4 and/or Nanog bind to the promoters of a network of genes that are involved in the maintenance of pluripotency and self renewal in stem cells. Sox2 is also a marker of neural stem cells during embryonic development and in the adult brain. The O30-678 antibody recognizes both human and mouse Sox2 proteins.



Analysis of Sox2 on human embryonic stem (ES) cells. *H9 human ES cells (WiCell, Madison, WI) were harvested, fixed in BD Cytofix™ buffer (Cat. No. 554655), permeabilized with BD™ Phosflow Perm buffer III (Cat. No. 558050) and stained with matching concentrations of either Alexa Fluor® 488 Mouse IgG1, κ isotype control (dashed line, Cat. No. 557721) or Alexa Fluor® 488 Mouse anti-Sox2 monoclonal antibody (solid line). Histograms were derived from gated events based on light scattering characteristics of the H9 cell line. Flow cytometry was performed on a BD LSR™ II flow cytometry system.*



Analysis of Sox2 on human ES cell-derived neural stem cells (NSC). *NSC derived from H9 human ES cells (WiCell, Madison, WI) were harvested, fixed in BD Cytofix™ buffer (Cat. No. 554655), permeabilized with BD™ Phosflow Perm buffer III (Cat. No. 558050), and stained with matching concentrations of either Alexa Fluor® 488 Mouse IgG1, κ isotype control (dashed line, Cat. No. 557721) or Alexa Fluor® 488 Mouse Anti-Sox2 monoclonal antibody (solid line). Histograms were derived from gated events based on light scattering characteristics of the H9-derived NSC. Flow cytometry was performed on a BD LSR™ II flow cytometry system.*



Immunoflourescent staining of human embryonic stem (ES) cells. *H9 human ES cells (WiCell, Madison, WI), passage 33 grown on irradiated mouse embryonic fibroblasts, were fixed with BD Cytofix™ Fixation Buffer (Cat. No. 554655), permeabilized with BD™ Phosflow Perm Buffer III (Cat No. 558050), and stained with Alexa Fluor® 488 Mouse anti-Sox2 monoclonal antibody (pseudo colored green) at 1.2 µg/mL. Counter-staining of cell nuclei was with Hoechst 33342 (pseudo-colored blue). The images were captured on a BD Pathway™ 435 Cell Analyzer and merged using BD Attovision™ Software.*

Preparation and Storage

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

BD Biosciences

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Application Notes

Application

Intracellular staining (flow cytometry)	Routinely Tested
Bioimaging	Tested During Development
Immunofluorescence	Tested During Development

Suggested Companion Products

Catalog Number	Name	Size	Clone
554655	Fixation Buffer	100 ml	(none)
558050	Perm Buffer III	125 ml	(none)
353219	BD Falcon™ 96-well Imaging Plate	NA	(none)
557721	Alexa Fluor® 488 Mouse IgG1 κ Isotype Control	100 tests	MOPC-21
554656	Stain Buffer (FBS)	500 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-µl experimental sample (a test).
2. An isotype control should be used at the same concentration as the antibody of interest.
3. Alexa Fluor® 488 fluorochrome emission is collected at the same instrument settings as for fluorescein isothiocyanate (FITC).
4. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
5. 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.
6. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
7. 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.
8. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/colors.
9. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

Boyer LA, Lee TI, Cole MF, et al. Core transcriptional regulatory circuitry in human embryonic stem cells. *Cell.* 2005; 122:947-956. (Biology)
Pan G, Thomson JA. Nanog and transcriptional networks in embryonic stem cell pluripotency. *Cell Res.* 2007; 17:42-49. (Biology)
Takahashi K, Yamanaka S. Induction of pluripotent stem cells from mouse embryonic and adult fibroblast cultures by defined factors. *Cell.* 2006; 126:633-676. (Biology)