

Technical Data Sheet

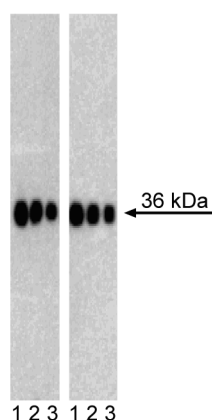
Purified Mouse anti-Sox2

Product Information

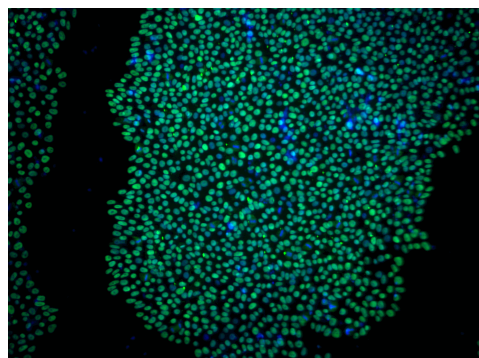
Material Number:	561469
Entrez Gene ID:	6657, 20674
Size:	0.1 mg
Concentration:	0.5 mg/ml
Clone:	O30-678
Immunogen:	Human Sox2 Recombinant Protein
Isotype:	Mouse (CD) IgG1, κ
Reactivity:	QC Testing: Human Confirmed in development: Mouse
Target MW:	36 kDa
Storage Buffer:	Aqueous buffered solution containing $\leq 0.09\%$ 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.



Western Blot analysis of Sox2 in Human Neural Stem Cells (NSC) and Mouse Embryonic Stem (ES) cell line. Lysates of NSC derived from H9 human ES cells (WiCell, Madison, WI, Left) and ES-E14TG2a mouse ES cells (ATCC CRL-1821, right) were probed with Purified Mouse anti-Sox2 monoclonal antibody at concentrations of 0.125 (lanes 1), 0.06 (lanes 2), and 0.03 $\mu\text{g/ml}$ (lanes 3). Human and mouse Sox2 were identified as bands of ~ 36 kDa.



Immunofluorescent staining of Sox2 in human embryonic stem (ES) cells. H9 human ES cells (WiCell Madison, WI), passage 52 grown in mTESR™ 1 medium (StemCell Technologies) on BD Matrigel™ hESC-qualified Matrix (Cat. No. 354277), were fixed with BD Cytotfix™ Fixation Buffer (Cat. No. 554655), permeabilized with BD™ Phosflow Perm Buffer III (Cat No. 558050), and stained with Purified Mouse anti-Sox2 monoclonal antibody (pseudo colored green) at 10 $\mu\text{g/mL}$. The second step reagent was Alexa Fluor® 488 goat anti-mouse Ig (Life Technologies), and counter-staining was with Hoechst 33342 (pseudo-colored blue). The images were captured on a BD Pathway™ 435 Cell Analyzer and merged using BD Attovision™ Software. Permeabilization with BD Perm/Wash™ (Cat No. 554723) or 0.1% Triton™ X-100 buffer is also suitable for use with this antibody.

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Preparation and Storage

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

Store undiluted at 4°C.

Application Notes

Application

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

Suggested Companion Products

Catalog Number	Name	Size	Clone
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)
354277	BD Matrigel™ hESC-qualified Matrix, 5 ml vial	NA	(none)
554655	Fixation Buffer	100 ml	(none)
558050	Perm Buffer III	125 ml	(none)
554723	Perm/Wash Buffer	100 ml	(none)

Product Notices

1. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
2. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
3. 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.
4. mTESR™1 is a trademark of StemCell Technologies.
5. Triton is a trademark of the Dow Chemical Company.
6. Alexa Fluor® is a registered trademark of Life Technologies Corporation.

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)