

DESCRIPTION	
Species Reactivity	Human/Mouse/Rat
Specificity	Detects human, mouse, and rat SOX2 in Western blots.
Source	Monoclonal Mouse IgG _{2A} Clone # 245610
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human SOX2 Gly135-Met317 Accession # P48431
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below
Immunocytochemistry	8-25 µg/mL	See Below
Intracellular Staining by Flow Cytometry	0.25 µg/10 ⁶ cells	See Below
Simple Western	4 µg/mL	See Below
CyTOF-reported	Zunder, E.R. <i>et al.</i> (2015) Cell Stem Cell 16 : 323. Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA

Western Blot

Detection of Human, Mouse, and Rat SOX2 by Western Blot. Western blot shows lysates of Ntera-2 human testicular embryonic carcinoma cell line, F9 mouse teratocarcinoma stem cells, D3 mouse embryonic stem cell line, and rat cortical stem cells. PVDF membrane was probed with 1 µg/mL of Mouse Anti-Human/Mouse/Rat SOX2 Monoclonal Antibody (Catalog # MAB2018) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for SOX2 at approximately 36 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunocytochemistry

E-Cadherin and SOX2 in BG01V Human Stem Cells. E-Cadherin and SOX2 were detected in BG01V human embryonic stem cells using 10 µg/mL Goat Anti-Human E-Cadherin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF648) and 10 µg/mL Mouse Anti-Human/Mouse/Rat SOX2 Monoclonal Antibody (Catalog # MAB2018). Cells were incubated with primary antibodies for 3 hours at room temperature. Cells were stained for E-Cadherin using the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red; Catalog # NL001) and for SOX2 using the NorthernLights 493-conjugated Anti-Mouse Secondary Antibody (green; Catalog # NL009). Cells were counterstained with DAPI (blue). View our protocol for [Fluorescent ICC Staining of Cells on Coverslips](#).

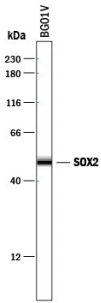
Immunocytochemistry

SOX2 in BG01V Human Embryonic Stem Cells. SOX2 was detected in immersion fixed BG01V human embryonic stem cells using Mouse Anti-Human/Mouse/Rat SOX2 Monoclonal Antibody (Catalog # MAB2018) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (yellow; Catalog # NL007) and counterstained with DAPI (blue). View our protocol for [Fluorescent ICC Staining of Cells on Coverslips](#).

Intracellular Staining by Flow Cytometry

Detection of SOX2 in Ntera-2 Human Cell Line by Flow Cytometry. Ntera-2 human testicular embryonic carcinoma cell line was stained with Mouse Anti-Human/Mouse/Rat SOX2 Monoclonal Antibody (Catalog # MAB2018, filled histogram) or isotype control antibody (Catalog # MAB003, open histogram), followed by Phycoerythrin-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0102B). To facilitate intracellular staining, cells were fixed with Flow Cytometry Fixation Buffer (Catalog # FC004) and permeabilized with Flow Cytometry Permeabilization/Wash Buffer I (Catalog # FC005). View our protocol for [Staining Intracellular Molecules](#).

Simple Western



Detection of Human SOX2 by Simple Western™. Simple Western lane view shows lysates of BG01V human embryonic stem cells, loaded at 0.2 mg/mL. A specific band was detected for SOX2 at approximately 50 kDa (as indicated) using 4 µg/mL of Mouse Anti-Human/Mouse/Rat SOX2 Monoclonal Antibody (Catalog # MAB2018). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.



PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

SOX2 belongs to the SOX (SRY-like HMG box) family of transcription factors with diverse roles in development. SOX2 functions in specifying the first three lineages present at implantation and in regulating proliferation and differentiation in the developing peripheral nervous system (1-6).

References:

1. Graham, V. *et al.* (2003) *Neuron* **39**:749.
2. Avilion, A.A. *et al.* (2003) *Genes Dev.* **17**:126.
3. Kishi, M. *et al.* (2000) *Development* **127**:791.
4. Yuan, H. *et al.* (1995) *Genes Dev.* **9**:2635.
5. Uwanogho, D. *et al.* (1995) *Mech. Dev.* **49**:23.
6. Stevanovic, M. (2003) *Mol. Biol. Rep.* **30**:127.