Human SOD1/Cu-Zn SOD Antibody

Monoclonal Mouse IgG_{2A} Clone # 348808

Catalog Number: MAB3418

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human SOD1/Cu-Zn SOD in Western blots. In Western blots, no cross-reactivity with recombinant human (rh) SOD2 or rhSOD3 is observed.
Source	Monoclonal Mouse IgG_{2A} Clone # 348808
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*E. coli*-derived recombinant human SOD1/Cu-Zn SOD Met1-Gln154 Accession # P00441
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 as a 0.2 μm filtered solution in PBS.

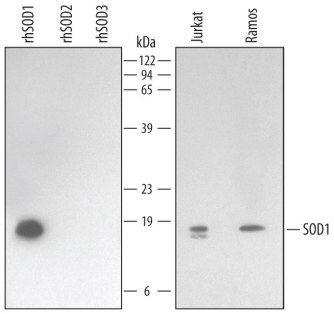
APPLICATIONS

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	0.5 µg/mL	See Below
Immunocytochemistry	15-25 µg/mL	See Below

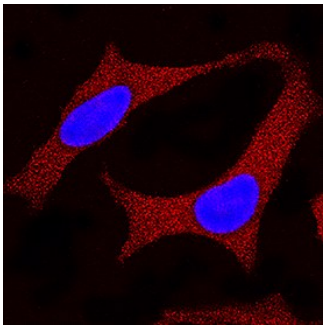
DATA

Western Blot



Detection of Human SOD1/Cu-Zn SOD by Western Blot. Western blot shows lysates of Jurkat human acute T cell leukemia cell line and Ramos human Burkitt's lymphoma cell line. PVDF membrane was probed with 0.5 µg/mL Mouse Anti-Human SOD1/Cu-Zn SOD Monoclonal Antibody (Catalog # MAB3418) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). For additional reference, recombinant human SOD1, SOD2, and SOD3 (1 ng) were included. A specific band for SOD1/Cu-Zn SOD was detected at approximately 16 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 2.

Immunocytochemistry



SOD1/Cu-Zn SOD in HeLa Human Cell Line. SOD1/Cu-Zn SOD was detected in immersion fixed HeLa human cervical epithelial carcinoma cell line using Mouse Anti-Human SOD1/Cu-Zn SOD Monoclonal Antibody (Catalog # MAB3418) at 25 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

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.** ● 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

Superoxide Dismutases (SODs), originally identified as Indophenoloxidase (IPO), are enzymes that catalyze the conversion of naturally-occuring but harmful superoxide radicals into molecular oxygen and hydrogen peroxide. Superoxide Dismutases 1, SOD1, also known as Cu/Zn SOD, soluble SOD and IPO-A, is a soluble, cytoplasmic 16 kDa homodimer. Each SOD1 monomer binds one Cu^{2+} and one Zn^{2+} ion. Three isozymes of SOD have been identified and are functionally related but have very modest sequence homology. SOD1 shares 23% and 27% sequence identity with SOD2 and SOD3, respectively. Mutations in SOD1 have been implicated as causes of familial amyotrophic lateral sclerosis (ALS). The ALS-causing mutations of SOD1 are scattered throughout the protein and provide no clear functional or structural clues to the underlying disease mechanism. The oligomerization hypothesis suggests that mutant SOD1 proteins become misfolded and consequently oligomerize into high molecular weight aggregates that result in the death of motor neurons. The oxidative damage hypothesis suggests that loss of function mutation in SOD1 protein results in the accumulation of cellular superoxide radical, leading to free radical-mediated damage, the release of cytochrome c, and apoptosis.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956