**BACKGROUND**

Cu-Zn superoxide dismutase-1 (SOD-1) is a well-characterized cytosolic scavenger of oxygen free radicals that requires copper and zinc binding to potentiate its enzymatic activity. Enzymatically, SOD-1 facilitates the dismutation of oxygen radicals to hydrogen peroxide, and it also catalyzes prooxidant reactions, which include the peroxidase activity and hydroxyl radical generating activity. SOD-1 is ubiquitously expressed in somatic cells and functions as a homodimer. Defects in the gene encoding SOD-1 have been implicated in the progression of neurological diseases, including amyotrophic lateral sclerosis (ALS), a neurodegenerative disease characterized by the loss of spinal motor neurons, Down’s syndrome and Alzheimer’s disease. In familial ALS, several mutations in SOD-1 predominate, and they result in the loss of zinc binding and the loss of scavenging activity of SOD-1 and correlate with an increase in neurotoxicity and motor neuron death.

**CHROMOSOMAL LOCATION**

Genetic locus: SOD1 (human) mapping to 21q22.11; Sod1 (mouse) mapping to 16 C3.3.

**SOURCE**

SOD-1 (B-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 120-146 at the C-terminus of SOD-1 of human origin.

**PRODUCT**

Each vial contains 200 µg IgM in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-271014P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

**APPLICATIONS**

SOD-1 (B-1) is recommended for detection of SOD-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation (1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

SOD-1 (B-1) is also recommended for detection of SOD-1 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for SOD-1 siRNA (h): sc-36523, SOD-1 siRNA (m): sc-36522, SOD-1 shRNA Plasmid (h): sc-36523-SH, SOD-1 shRNA Plasmid (m): sc-36522-SH, SOD-1 shRNA (h) Lentiviral Particles: sc-36523-V and SOD-1 shRNA (m) Lentiviral Particles: sc-36522-V.

Molecular Weight of SOD-1: 23 kDa.

Positive Controls: SOD-1 (m2): 293T Lysate: sc-117752, HeLa whole cell lysate: sc-123711, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

**RESEARCH USE**

For research use only, not for use in diagnostic procedures.

**DATA**

See SOD-1 (G-11): sc-17767 for SOD-1 antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.

**STORAGE**

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.