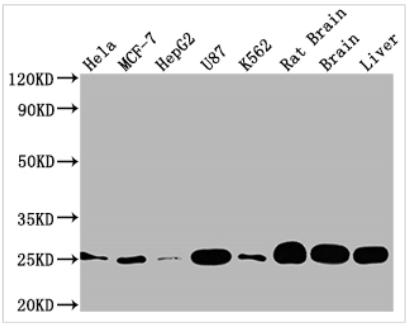
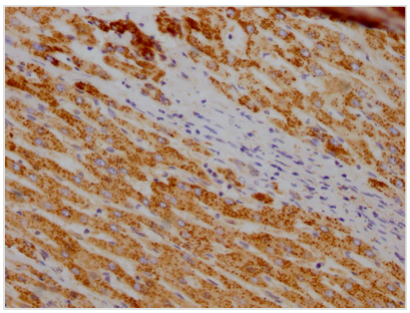
SOD2 Recombinant Monoclonal Antibody

Product Code	CSB-RA633872A0HU
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	P04179
Immunogen	A synthesized peptide derived from human SOD2
Species Reactivity	Human, Rat
Tested Applications	ELISA, WB, IHC; Recommended dilution: WB:1:500-1:5000, IHC:1:50-1:200
Relevance	Destroys superoxide anion radicals which are normally produced within the cells and which are toxic to biological systems.
Form	Liquid
Conjugate	Non-conjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purification Method	Affinity-chromatography
Isotype	Rabbit IgG
Clonality	Monoclonal
Product Type	Recombinant Antibody
Immunogen Species	Homo sapiens (Human)
Research Area	Neuroscience; Cancer; Cardiovascular; Cell biology; Metabolism; Signal transduction
Gene Names	SOD2
Clone No.	10F6

Image



Western Blot
Positive WB detected in: Hela whole cell lysate, MCF-7 whole cell lysate, HepG2 whole cell lysate, U87 whole cell lysate, K562 whole cell lysate, Rat brain tissue, Brain tissue, Liver tissue
All lanes: SOD2 antibody at 1:2000
Secondary
Goat polyclonal to rabbit IgG at 1/50000 dilution
Predicted band size: 25, 21, 19, 20 kDa
Observed band size: 25 kDa



IHC image of CSB-RA633872A0HU diluted at 1:100 and staining in paraffin-embedded human liver cancer performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4? overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB.

Description

To prepare the SOD2 recombinant monoclonal antibody, a combination of protein technology and DNA recombinant technology was employed. Initially, mice were immunized with a synthesized peptide derived from human SOD2. After a certain period, the spleen was removed from the mice under sterile conditions. Total RNA was extracted from spleen cells and used to synthesize cDNA, which acted as the template for PCR amplification of the SOD2 antibody gene. The obtained SOD2 antibody gene was then inserted into a vector and transfected into host cells for culture. The SOD2 recombinant monoclonal antibody was purified from the supernatant of cell culture using affinity chromatography. It has undergone rigorous verification and is suitable for detecting human and rat SOD2 proteins in ELISA, WB, and IHC experiments.

The SOD2 protein, also known as manganese superoxide dismutase (MnSOD), is an enzyme that plays a critical role in the cell's antioxidant defense system. It catalyzes the conversion of superoxide radicals into hydrogen peroxide and molecular oxygen, which prevents the accumulation of superoxide radicals, preventing damage to the mitochondrial membrane and the DNA inside the mitochondria. SOD2 has been shown to play a role in other cellular processes, such as regulating the activity of transcription factors and influencing cell signaling pathways. The dysregulation of SOD2 has been implicated in a variety of diseases, including cancer, neurodegenerative disorders, and cardiovascular disease.