PRODUCT INFORMATION

Cu/Zn SOD (human) Polyclonal Antibody
Item No. 10011388

Overview and Properties

Contents: This vial contains 25 or 100 µl protein A-affinity purified polyclonal antibody.
Synonyms: Cu/Zn Superoxide Dismutase, SOD1
Immunogen: Human Cu/Zn SOD
Species Reactivity: (+) Human, mouse, bovine, monkey, coral, canine, hamster, porcine, rabbit, ovine, and rat Cu/Zn SOD. Detects a 23 kDa (human) and 19 kDa (other species) proteins corresponding to the molecular mass of Cu/Zn SOD on SDS-PAGE immunoblots.
Uniprot No.: P00441
Form: Liquid
Storage: -20°C (as supplied)
Stability: ≥1 year
Storage Buffer: PBS, pH 7.0, with 50% glycerol and 0.09% sodium azide
Concentration: 1 mg/ml
Host: Rabbit
Isotype: IgG1
Applications: Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution is 1:100 for IHC and 1:5,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images

Immunohistochemical staining of human SOD1 in skin cancer cells using Cu/Zn SOD (human) Polyclonal Antibody at a dilution of 1:100.

WB of Cu/Zn SOD (human) Polyclonal Antibody at 1:1,000 dilution.

Lane 1: MW Markers
Lane 2: Human cell lysates (15µg)

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Lane 2: Human cell lysates (15µg)
Superoxide dismutase (SOD) is an endogenously produced intracellular enzyme present in almost every cell in the body.\(^3\) It works by catalyzing the dismutation of the superoxide radical $O_2^-$ to $O_2$ and $H_2O_2$, which are then metabolized to $H_2O$ and $O_2$ by catalase and glutathione peroxidase.\(^4,5\) In general, SODs play a major role in antioxidant defense mechanisms.\(^6\) There are two main types of SOD in mammalian cells. One form, SOD1, contains Cu and Zn ions as a homodimer and exists in the cytoplasm. The two subunits of 16 kDa each are linked by two cystines forming an intra-subunit disulphide bridge.\(^3\) The second form, SOD2, is a manganese-containing enzyme and resides in the mitochondrial matrix. It is a homotetramer of 80 kDa. The third form, SOD3 or EC-SOD, is like SOD1 in that it contains Cu and Zn ions, however it is distinct in that it is a homotetramer, with a mass of 30 kDa and it exists only in the extra-cellular space.\(^1\) SOD3 can also be distinguished by its heparin-binding capacity.\(^7\) Cayman’s Cu/Zn SOD (human) Polyclonal Antibody can be used for Immunohistochemistry (IHC) and Western blot (WB) applications.

References