

# Product Datasheet

## SOD2/Mn-SOD Antibody - BSA Free NB100-1992

Unit Size: 0.05 mg

Store at -20C. Avoid freeze-thaw cycles.

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**NB100-1992**

SOD2/Mn-SOD Antibody - BSA Free

**Product Information**

<b>Unit Size</b>	0.05 mg
<b>Concentration</b>	1.0 mg/ml
<b>Storage</b>	Store at -20C. Avoid freeze-thaw cycles.
<b>Clonality</b>	Polyclonal
<b>Preservative</b>	0.09% Sodium Azide
<b>Isotype</b>	IgG
<b>Purity</b>	Immunogen affinity purified
<b>Buffer</b>	PBS (pH 7.4), 50% Glycerol

**Product Description**

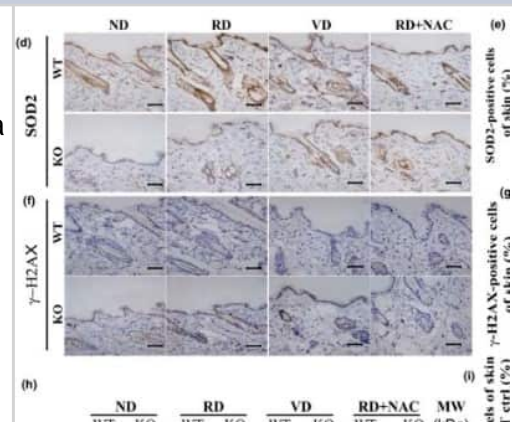
<b>Host</b>	Rabbit
<b>Gene ID</b>	6648
<b>Gene Symbol</b>	SOD2
<b>Species</b>	Human, Mouse, Rat, Porcine, Bovine, Canine, Chicken, Drosophila, Guinea Pig, Goat, Hamster, Monkey, Rabbit, Sheep, Squirrel, Xenopus
<b>Reactivity Notes</b>	Goat reactivity reported in scientific literature (PMID: 28797922). Reacts with <i>Ciona intestinalis</i> (Sea squirt).
<b>Specificity/Sensitivity</b>	Detects 25 kDa protein, corresponding to the molecular mass of Mn superoxide dismutase (SOD) on SDS-PAGE immunoblots.
<b>Immunogen</b>	Recombinant Rat Mn SOD Protein

**Product Application Details**

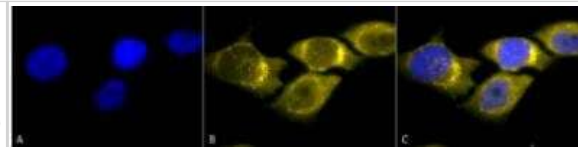
<b>Applications</b>	Western Blot, ELISA, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Paraffin, Immunoprecipitation
<b>Recommended Dilutions</b>	Western Blot 1:5000, ELISA 1:100-1:2000, Immunohistochemistry 1:100, Immunocytochemistry/ Immunofluorescence 1:120, Immunoprecipitation 1:10-1:500, Immunohistochemistry-Paraffin 1:10-1:500

**Images**

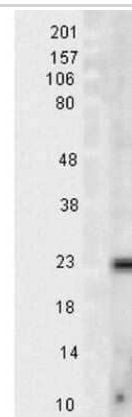
Immunohistochemistry: SOD2/Mn-SOD Antibody [NB100-1992] - The effects of a high calcium/phosphate diet, of 1,25(OH)<sub>2</sub>D<sub>3</sub>, and of antioxidant supplementation on oxidative stress, DNA damage, and protein expression of oncogenes and tumor suppressive genes in 1α(OH)ase <sup>-/-</sup> mice. Mice from each group were treated as described in Figure 1. Representative micrographs of skin sections stained immunohistochemically for SOD2 and gamma-H2AX. Scale bars represent 50 μm. Image collected and cropped by CiteAb from the following publication (<https://onlinelibrary.wiley.com/doi/abs/10.1111/ace.12951>), licensed under a CC-BY license.



**Immunocytochemistry/Immunofluorescence: SOD2/Mn-SOD Antibody [NB100-1992]** - Analysis using Rabbit Anti-SOD (Mn) Polyclonal Antibody. Tissue: HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Rabbit Anti-SOD (Mn) Polyclonal Antibody at 1:120 for 12 hours at 4 degrees C. Secondary Antibody: R-PE Goat Anti-Rabbit (yellow) at 1:200 for 120 min at RT. Counterstain: DAPI (blue) nuclear stain at 1:40000 for 120 min at RT. Localization: Mitochondrion matrix. Magnification: 100x. (A) DAPI (blue) nuclear stain. (B) Anti-SOD (Mn) Antibody. (C) Composite.



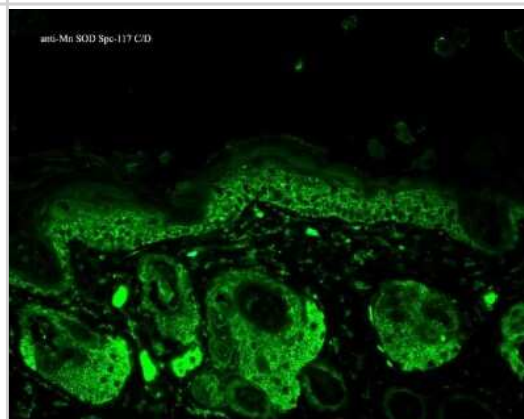
**Western Blot: SOD2/Mn-SOD Antibody [NB100-1992]** - Western blot analysis of Rat Tissue lysates showing detection of SOD2/Mn-SOD protein using Rabbit Anti-SOD2/Mn-SOD Polyclonal Antibody (NB100-1992). Load: 15 ugprotein. Block: 1.5% BSA for 30 minutes at RT. Primary Antibody: Rabbit Anti-SOD2/Mn-SOD Polyclonal Antibody (NB100-1992) at 1:1000 for 2 hours at RT. Secondary Antibody: Donkey Anti-Rabbit IgG: HRP for 1 hour at RT.



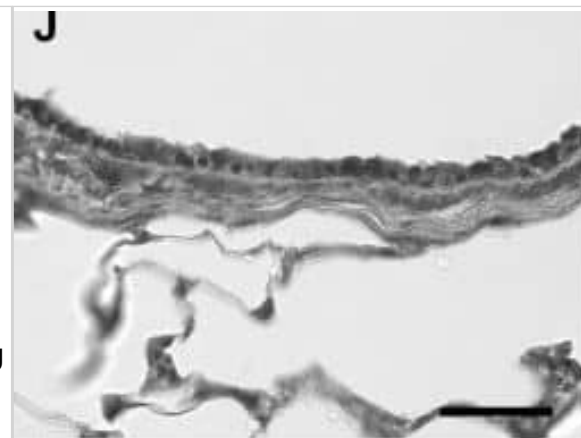
**Immunocytochemistry/Immunofluorescence: SOD2/Mn-SOD Antibody [NB100-1992]** - Analysis using Rabbit Anti-SOD (Mn) Polyclonal Antibody. Tissue: HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Rabbit Anti-SOD (Mn) Polyclonal Antibody at 1:120 for 12 hours at 4 degrees C. Secondary Antibody: APC Goat Anti-Rabbit (red) at 1:200 for 120 min at RT. Counterstain: DAPI (blue) nuclear stain at 1:40000 for 120 min at RT. Localization: Mitochondrion matrix. Magnification: 20x. (A) DAPI (blue) nuclear stain. (B) Anti-SOD (Mn) Antibody. (C) Composite.



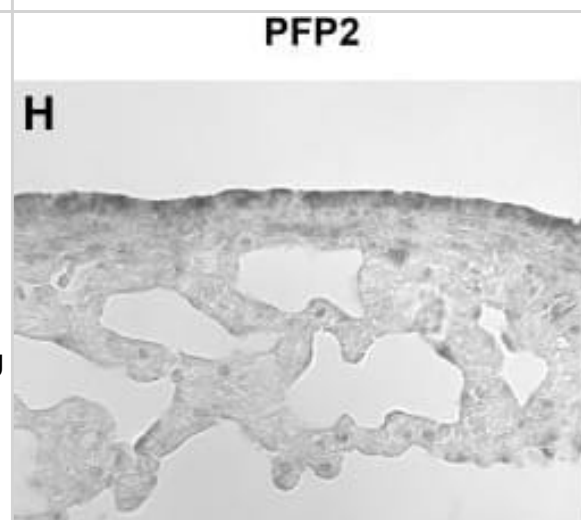
**Immunohistochemistry: SOD2/Mn-SOD Antibody [NB100-1992]** - Immunohistochemistry analysis using Rabbit Anti-SOD2/Mn-SOD Polyclonal Antibody (NB100-1992). Tissue: backskin. Species: Mouse. Fixation: Bouin's Fixative Solution. Primary Antibody: Rabbit Anti-SOD2/Mn-SOD Polyclonal Antibody (NB100-1992) at 1:100 for 1 hour at RT. Secondary Antibody: FITC Goat Anti-Rabbit (green) at 1:50 for 1 hour at RT. Localization: Mitochondrion matrix.



Immunohistochemistry: SOD2/Mn-SOD Antibody [NB100-1992] - SOD2 mRNA & protein expression. RT-PCR: (A) SOD2 mRNA expression is higher in adults, & highest in the adult parenchyma. (B) No exposure effects on SOD2 mRNA were observed in neonates. (C) Adult SOD2 mRNA was decreased in PFP48. Data are presented as mean+SEM (n=5-7 rats/group, in each compartment), \* significantly different compared to neonates in the same compartment, † significantly different compared to airways in the same age, ‡ significantly different compared to FA in the same compartment. Western blotting: (D) Scan of representative SOD2 & actin blots. (E) Neonatal whole lung SOD2 protein expression was unchanged with exposure, & (F) adult whole lung SOD2 protein trended upwards at PFP2, but was statistically insignificant. (G-J) Immunohistochemical localization of SOD2 in lung (n=6 rats/group). SOD2 protein was more abundant in adults compared to neonates, but no exposure specific differences were observed. Scale bar is 50  $\mu$ m. Image collected & cropped by CiteAb from the following publication (<https://particleandfibretoxicology.biomedcentral.com/articles/10.1186/1743-8977-10-34>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.

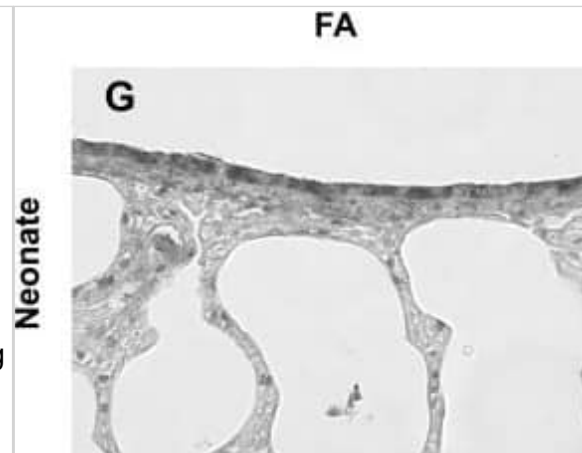


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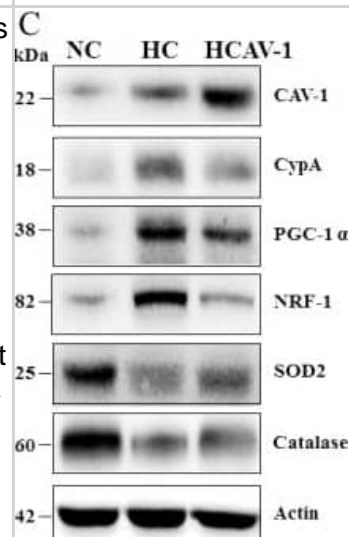




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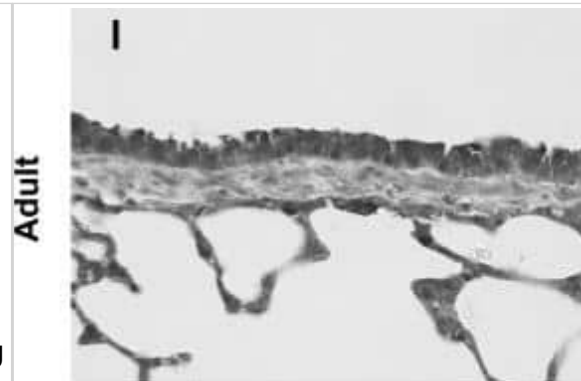
**Western Blot: SOD2/Mn-SOD Antibody [NB100-1992] - CAV-1 preserves mitochondrial respiratory function through regulation of OXPHOS expression.**(A) OXPHOS complex subunits were detected through western blotting with appropriate antibodies. CAV-1 treatment significantly restored hypercholesterolemia-associated increased ETC complex I-V proteins levels. (B) Percentage of the OXPHOS complex (I-V) band intensities is presented in the graph. (C) Representative immunoblot displaying levels of CAV-1, CyPA, mitochondrial biogenesis markers, & antioxidant enzymes in the NC, HC, & HCAV-1 groups. (D) Columns represent average values over three independent experiments. The density for the NC group was set at 1; \* & † are significantly different for the NC & HC groups, respectively, at  $P < 0.05$ .  $\beta$ -actin was used as a loading control. Values are means  $\pm$  SD. Image collected & cropped by CiteAb from the following publication (<https://dx.plos.org/10.1371/journal.pone.0154210>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



**Western Blot: SOD2/Mn-SOD Antibody [NB100-1992] - SOD2 mRNA & protein expression.** RT-PCR: (A) SOD2 mRNA expression is higher in adults, & highest in the adult parenchyma. (B) No exposure effects on SOD2 mRNA were observed in neonates. (C) Adult SOD2 mRNA was decreased in PFP48. Data are presented as mean+SEM (n=5-7 rats/group, in each compartment), \* significantly different compared to neonates in the same compartment, † significantly different compared to airways in the same age, ‡ significantly different compared to FA in the same compartment. Western blotting: (D) Scan of representative SOD2 & actin blots. (E) Neonatal whole lung SOD2 protein expression was unchanged with exposure, & (F) adult whole lung SOD2 protein trended upwards at PFP2, but was statistically insignificant. (G-J) Immunohistochemical localization of SOD2 in lung (n=6 rats/group). SOD2 protein was more abundant in adults compared to neonates, but no exposure specific differences were observed. Scale bar is 50  $\mu$ m. Image collected & cropped by CiteAb from the following publication (<https://particleandfibretotoxicology.biomedcentral.com/articles/10.1186/1743-8977-10-34>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



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## Publications

Hesse R, Hurtado ML, Jackson RJ, Eaton SL et al. Comparative profiling of the synaptic proteome from Alzheimer's disease patients with focus on the APOE genotype *Acta Neuropathol Commun* 2019-12-22 [PMID: 31862015]

Cai J, Chen Y, She Y et al. Aerobic exercise improves astrocyte mitochondrial quality and transfer to neurons in a mouse model of Alzheimer's disease. *Brain pathology (Zurich, Switzerland)* 2024-10-26 [PMID: 39462160]

Qi XY, Yuan JD, Liu ZY et al. Sirtuin 3-mediated deacetylation of superoxide dismutase 2 ameliorates sodium fluoride-induced mitochondrial dysfunction in porcine oocytes *The Science of the total environment* 2024-01-15 [PMID: 37944611]

Dai Z, Li D, Du X et al. *Drosophila* Caliban preserves intestinal homeostasis and lifespan through regulating mitochondrial dynamics and redox state in enterocytes *PLOS Genetics* 2020-10-15 [PMID: 33057338]

Braun JL, Messner HN, Cleverdon REG et al. Heterozygous SOD2 deletion selectively impairs SERCA function in the soleus of female mice *Physiological Reports* 2022-05-17 [PMID: 35581738] (Immunoprecipitation, Western Blot)

Gu X, Zhao L, Ye J et al. 1,25(OH)<sub>2</sub>D<sub>3</sub> ameliorates doxorubicin-induced cardiomyopathy by inhibiting the NLRP3 inflammasome and oxidative stress *Experimental and Therapeutic Medicine* 2023-07-11 [PMID: 37559932] (WB, Mouse)

Details:  
1:1000 dilution

Han B, Zhao H, Gong X et al. Upregulation of PGC-1  $\alpha$  Attenuates Oxygen-Glucose Deprivation-Induced Hippocampal Neuronal Injury *Neural plasticity* 2022-06-09 [PMID: 35719138] (ICC/IF, Mouse)

Chen H, Zhou J, Chen H et al. Bmi-1-RING1B prevents GATA4-dependent senescence-associated pathological cardiac hypertrophy by promoting autophagic degradation of GATA4 *Clinical and translational medicine* 2022-04-01 [PMID: 35390228] (WB, Mouse)

Peng L, Jiang J, Chen HN Et al. Redox-sensitive cyclophilin A elicits chemoresistance through realigning cellular oxidative status in colorectal cancer *Cell reports* 2021-11-30 [PMID: 34852234] (WB, Human)

Suresh V, Mohanty V, Avula K et al. Quantitative proteomics of hamster lung tissues infected with SARS-CoV-2 reveal host factors having implication in the disease pathogenesis and severity *FASEB journal : official publication of the Federation of American Societies for Experimental Biology* 2021-07-01 [PMID: 34105201] (IF/IHC, Hamster)

Chen L, Yang R et al. 1,25-Dihydroxyvitamin D exerts an antiaging role by activation of Nrf2-antioxidant signaling and inactivation of p16/p53-senescence signaling. *Aging Cell* 2019-01-06 [PMID: 30907059] (IF/IHC, Mouse)

Yu C, Chen S, Wang X et al. Exposure to maternal diabetes induces endothelial dysfunction and hypertension in adult male rat offspring *Microvasc. Res.* 2020-09-18 [PMID: 32956647] (WB, Rat)

More publications at <http://www.novusbio.com/NB100-1992>





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Orders: nb-customerservice@bio-techne.com  
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### **Products Related to NB100-1992**

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HAF008	Goat anti-Rabbit IgG Secondary Antibody [HRP]
NB7160	Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP]
NBP2-24891	Rabbit IgG Isotype Control
NBP2-52079-0.1mg	Recombinant Mouse SOD2/Mn-SOD His Protein

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### **Limitations**

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

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