

Xanthine Oxidase (H-110): sc-20991

BACKGROUND

The process of metabolizing purines to a common molecule known as Xanthine is an essential process for the proper shuttling of uric acid. Xanthine Oxidase is a flavoprotein enzyme that coordinates molybdenum and utilizes NAD⁺ as an electron acceptor to catalyze the oxidation of hypoxanthine to Xanthine and then to uric acid. The predominant form of this enzyme is Xanthine Dehydrogenase, which is a homodimer that can be converted to Xanthine Oxidase by sulfhydryl oxidation or proteolytic modification. Xanthine Oxidase is present in species ranging from bacteria to human and is ubiquitously expressed in mammalian tissues. In the oxidase form, this enzyme is coupled to the generation of free radicals. Individuals showing marked elevation of serum Xanthine Oxidase is suggestive of chronic liver disease and cholestasis, which is a condition defined by hepatic obstruction. Hepatic obstruction causes bile salts, the bile pigment bilirubin and fats to accumulate in the blood stream instead of being eliminated normally. The clinical consequences of defects in Xanthine Oxidase range from mild to severe and even contribute to fatal disorders.

CHROMOSOMAL LOCATION

Genetic locus: XDH (human) mapping to 2p23.1; Xdh (mouse) mapping to 17 E2.

SOURCE

Xanthine Oxidase (H-110) is a rabbit polyclonal antibody raised against amino acids 251-360 of Xanthine Oxidase of human origin.

PRODUCT

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

APPLICATIONS

Xanthine Oxidase (H-110) is recommended for detection of Xanthine Oxidase of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Xanthine Oxidase (H-110) is also recommended for detection of Xanthine Oxidase in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Xanthine Oxidase siRNA (h): sc-41691, Xanthine Oxidase siRNA (m): sc-41692, Xanthine Oxidase shRNA Plasmid (h): sc-41691-SH, Xanthine Oxidase shRNA Plasmid (m): sc-41692-SH, Xanthine Oxidase shRNA (h) Lentiviral Particles: sc-41691-V and Xanthine Oxidase shRNA (m) Lentiviral Particles: sc-41692-V.

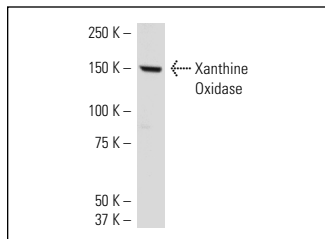
Molecular Weight of Xanthine Oxidase: 150 kDa.

Positive Controls: rat liver extract: sc-2395, c4 whole cel lysate or mouse liver extract: sc-2256.

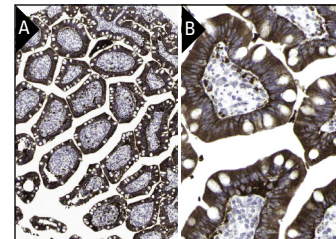
STORAGE

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

DATA



Xanthine Oxidase (H-110): sc-20991. Western blot analysis of Xanthine Oxidase expression in rat liver tissue extract.



Xanthine Oxidase (H-110): sc-20991. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic staining of glandular cells at low (A) and high (B) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

SELECT PRODUCT CITATIONS

- Jiménez-Altayó, F., et al. 2006. Increased superoxide anion production by interleukin-1b impairs nitric oxide-mediated relaxation in resistance arteries. *J. Pharmacol. Exp. Ther.* 316: 42-52.
- Kim, B.S., et al. 2013. Xanthine oxidoreductase is a critical mediator of cigarette smoke-induced endothelial cell DNA damage and apoptosis. *Free Radic. Biol. Med.* 60: 336-346.
- Nanduri, J., et al. 2013. Xanthine oxidase mediates hypoxia-inducible factor-2α degradation by intermittent hypoxia. *PLoS ONE* 8: e75838.
- Cui, J., et al. 2013. Protective effect of endogenous hydrogen sulfide against oxidative stress in gastric ischemia-reperfusion injury. *Exp. Ther. Med.* 5: 689-694.
- Kotla, S., et al. 2013. The transcription factor CREB enhances interleukin-17A production and inflammation in a mouse model of atherosclerosis. *Sci. Signal.* 6: ra83.
- Montenegro, M.F., et al. 2014. Vascular xanthine oxidoreductase contributes to the antihypertensive effects of sodium nitrite in L-NAME hypertension. *Naunyn Schmiedeberg Arch. Pharmacol.* 387: 591-598.
- Kotla, S., et al. 2014. ROS-dependent Syk and Pyk2-mediated STAT1 activation is required for 15(S)-hydroxyeicosatetraenoic acid-induced CD36 expression and foam cell formation. *Free Rad. Biol. Med.* 76: 147-162.

RESEARCH USE

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



Try **Xanthine Oxidase (A-3): sc-398548**, our highly recommended monoclonal alternative to Xanthine Oxidase (H-110).