

# Xanthine Oxidase (T-17): sc-22006

## 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<sup>+</sup> 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 (T-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region 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.

Blocking peptide available for competition studies, sc-22006 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Xanthine Oxidase (T-17) 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 (T-17) is also recommended for detection of Xanthine Oxidase in additional species, including equine and canine.

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.

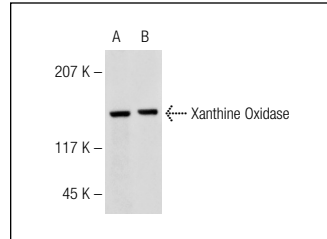
Molecular Weight of Xanthine Oxidase: 150 kDa.

Positive Controls: mouse liver extract: sc-2256 or rat liver extract: sc-2395.

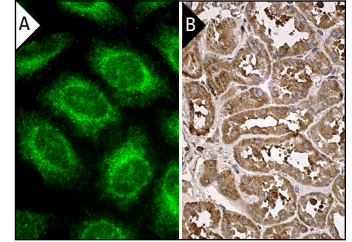
## STORAGE

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

## DATA



Xanthine Oxidase (T-17): sc-22006. Western blot analysis of Xanthine Oxidase expression in mouse liver (A) and rat liver (B) tissue extracts.



Xanthine Oxidase (T-17): sc-22006. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules (B).

## SELECT PRODUCT CITATIONS

- Lorne, E., et al. 2008. Role of extracellular superoxide in neutrophil activation: interactions between xanthine oxidase and TLR4 induce proinflammatory cytokine production. *Am. J. Physiol., Cell Physiol.* 294: C985-C993.
- 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.
- Garcia-Ruiz, I., et al. 2015. *In vitro* treatment of HepG2 cells with saturated fatty acids reproduces mitochondrial dysfunction found in nonalcoholic steatohepatitis. *Dis. Model. Mech.* 8: 183-191.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.


 MONOS  
Satisfaction  
Guaranteed

Try **Xanthine Oxidase (A-3): sc-398548**, our highly recommended monoclonal alternative to Xanthine Oxidase (T-17).