

# ACO2 (h4): 293T Lysate: sc-172722

## BACKGROUND

ACO2, also referred to as aconitate hydratase, citrate hydrolyase or aconitase, is an iron-sulfur hydrolyase that catalyzes the non-limiting interconversion of citrate and isocitrate in the tricarboxylic acid cycle. It is expressed in the mitochondria and maintains a citrate:isocitrate ratio of approximately 10:1. ACO2 contains a redox-sensitive iron-sulfur cluster that exists in two states: active (Fe4S4) and inactive (Fe3S4). ACO2 activity is dependent on the state of this cluster as well as the presence of two conserved cysteine residues. In normal prostate epithelial cells ACO2 activity is prevented due to the high levels of zinc inhibiting the enzyme. In these citrate-producing epithelial cells citrate oxidation is impaired, allowing citrate to accumulate and exhibit a citrate:isocitrate ratio of approximately 30:1. In malignant prostate cells zinc is unable to accumulate, therefore ACO2 activity resumes and citrate is oxidized.

## REFERENCES

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## CHROMOSOMAL LOCATION

Genetic locus: ACO2 (human) mapping to 22q13.2.

## PRODUCT

ACO2 (h4): 293T Lysate represents a lysate of human ACO2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

## APPLICATIONS

ACO2 (h4): 293T Lysate is suitable as a Western Blotting positive control for human reactive ACO2 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

## STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## 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) for detailed protocols and support products.