SANTA CRUZ BIOTECHNOLOGY, INC.

AOX1 (S-12): sc-109498

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The formation of free radicals is an adverse consequence of metabolism. Free radicals endanger cells by causing oxidative damage to membranes and can lead to interruption of DNA sequences, thereby potentially resulting in carcinogenesis. As a member of the molybdo-flavoenzymes family of proteins, AOX1 (Aldehyde oxidase 1) is a 1338 amino acid cytoplasmic protein that catalyzes the oxidation of a variety of aldehydes, leading to the production of hydrogen peroxide. Under certain conditions, AOX1 can catalyze the formation of the superoxide free radical. Defects in oxygen radical metabolism have been linked to the pathogenesis of amyotrophic lateral sclerosis (ALS), an autosomal dominant neurodegenerative disorder characterized by the death of motor neurons in the spinal cord, brain and brainstem. Significantly, AOX1 is highly expressed in the ventral horn of the spinal cord and the gene that encodes AOX1 is located in a chromosomal region that is frequently found to be implicated in ALS2. This evidence suggests that AOX1 is a candidate gene for ALS2.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: AOX1 (human) mapping to 2q33.1; Aox1 (mouse) mapping to 1 C1.3.

SOURCE

AOX1 (S-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of AOX1 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-109498 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

AOX1 (S-12) is recommended for detection of AOX1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

AOX1 (S-12) is also recommended for detection of AOX1 in additional species, including equine and porcine.

Suitable for use as control antibody for AOX1 siRNA (h): sc-94924, AOX1 siRNA (m): sc-141128, AOX1 shRNA Plasmid (h): sc-94924-SH, AOX1 shRNA Plasmid (m): sc-141128-SH, AOX1 shRNA (h) Lentiviral Particles: sc-94924-V and AOX1 shRNA (m) Lentiviral Particles: sc-141128-V.

Molecular Weight of AOX1: 150 kDa.

Positive Controls: Rat liver extract: sc-2395 or Hep G2 cell lysate: sc-2227.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. 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 or our catalog for detailed protocols and support products.