SANTA CRUZ BIOTECHNOLOGY, INC.

MAO-B (D-6): sc-515354

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Monoamine oxidase (MAO) is an enzyme of the mitochondrial outer membrane and catalyzes the oxidative deamination of biogenic amines throughout the body. MAO is critical in the neuronal metabolism of catecholamine and indolamine transmitters. Cultured skin fibroblasts show both MAO-A and MAO-B and both MAOs differ in molecular structure. MAO-A, the primary type in fibroblasts, preferentially degrades serotonin and norepinephrine. Only MAO-B is present in platelets and only MAO-A is present in trophoblasts. MAO-B, the primary type found not only in platelets but also in the brain of man and other primates, preferentially degrades phenylethylamine and benzylamine. MAO has been of particular interest to psychiatry and genetics because of the suggestion that low activity is a "genetic marker" for schizophrenia. The genes which encode MAO-A and MAO-B map to human chromosome Xp11.3.

REFERENCES

1. Wyatt, R.J., et al. 1973. Reduced monoamine oxidase activity in platelets: a possible genetic marker for vulnerability to schizophrenia. Science 179: 916-918.
2. Castro Costa, M.R., et al. 1980. Properties of monoamine oxidase in control and Lesch-Nyhan fibroblasts. Biochem. Genet. 18: 577-590.

CHROMOSOMAL LOCATION

Genetic locus: MAOB (human) mapping to Xp11.3; Maob (mouse) mapping to X A1.2.

SOURCE

MAO-B (D-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 130-149 within an internal region of MAO-B of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MAO-B (D-6) is available conjugated to agarose (sc-515354 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515354 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515354 PE), fluorescein (sc-515354 FITC), Alexa Fluor® 488 (sc-515354 AF488), Alexa Fluor® 546 (sc-515354 AF546), Alexa Fluor® 594 (sc-515354 AF594) or Alexa Fluor® 647 (sc-515354 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515354 AF680) or Alexa Fluor® 790 (sc-515354 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-515354 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

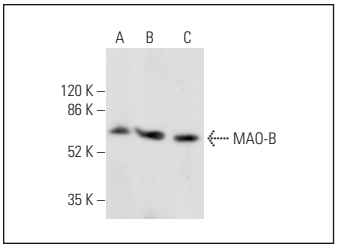
MAO-B (D-6) is recommended for detection of MAO-B of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MAO-B siRNA (h): sc-35849, MAO-B siRNA (m): sc-35850, MAO-B shRNA Plasmid (h): sc-35849-SH, MAO-B shRNA Plasmid (m): sc-35850-SH, MAO-B shRNA (h) Lentiviral Particles: sc-35849-V and MAO-B shRNA (m) Lentiviral Particles: sc-35850-V.

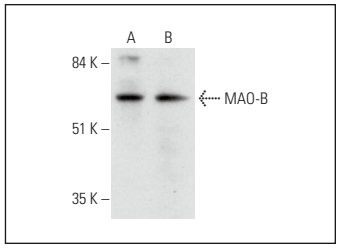
Molecular Weight of MAO-B: 60 kDa.

Positive Controls: mouse liver extract: sc-2256, Hep G2 cell lysate: sc-2227 or SH-SY5Y cell lysate: sc-3812.

DATA



MAO-B (D-6): sc-515354. Western blot analysis of MAO-B expression in human liver (**A**), mouse liver (**B**) and rat liver (**C**) tissue extracts. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



MAO-B (D-6): sc-515354. Western blot analysis of MAO-B expression in SH-SY5Y (**A**) and Hep G2 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Fecher, C., et al. 2019. Cell-type-specific profiling of brain mitochondria reveals functional and molecular diversity. Nat. Neurosci. 22: 1731-1742.
2. Cheng, Y., et al. 2020. Neuroprotective actions of leptin facilitated through balancing mitochondrial morphology and improving mitochondrial function. J. Neurochem. 155: 191-206.
3. Mpekoulis, G., et al. 2021. Association of hepatitis C virus replication with the catecholamine biosynthetic pathway. Viruses 13: 2139.
4. Kong, W., et al. 2023. Bile duct ligation increased dopamine levels in the cerebral cortex of rats partly due to induction of tyrosine hydroxylase. Br. J. Pharmacol. 180: 1690-1709.
5. Hashikawa-Hobara, N., et al. 2024. CGRP causes anxiety via HP1γ-KLF11-MAOB pathway and dopamine in the dorsal hippocampus. Commun. Biol. 7: 322.
6. Kong, Y., et al. 2024. *In vivo* reactive astrocyte imaging using [18F]SMBT-1 in tauopathy and familial Alzheimer's disease mouse models: a multi-tracer study. J. Neurol. Sci. 462: 123079.

RESEARCH USE

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