

MAO-A (h2): 293T Lysate: sc-159481

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 Xp11.23.

REFERENCES

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- Castro Costa, M.R., et al. 1980. Properties of monoamine oxidase in control and Lesch-Nyhan fibroblasts. *Biochem. Genet.* 18: 577-590.
- Levy, E.R., et al. 1989. Localization of human monoamine oxidase-A gene to Xp11.23-11.4 by *in situ* hybridization: implications for Norrie disease. *Genomics* 5: 368-370.
- Pinsonneault, J.K., et al. 2006. Allelic mRNA expression of X-linked monoamine oxidase a (MAOA) in human brain: dissection of epigenetic and genetic factors. *Hum. Mol. Genet.* 15: 2636-2649.
- Henriquez, S., et al. 2006. Deficient expression of monoamine oxidase-A in the endometrium is associated with implantation failure in women participating as recipients in oocyte donation. *Mol. Hum. Reprod.* 12: 749-754.
- Nilsson, K.W., et al. 2007. The monoamine oxidase-A (MAO-A) gene, family function and maltreatment as predictors of destructive behaviour during male adolescent alcohol consumption. *Addiction* 102: 389-398.
- Pchejetski, D., et al. 2007. Oxidative stress-dependent sphingosine kinase-1 inhibition mediates monoamine oxidase A-associated cardiac cell apoptosis. *Circ. Res.* 100: 41-49.
- Li, J., et al. 2007. Monoamine oxidase A gene polymorphism predicts adolescent outcome of attention-deficit/hyperactivity disorder. *Am. J. Med. Genet. B Neuropsychiatr. Genet.* 144: 430-433.
- Fitzgerald, J.C., et al. 2007. A link between monoamine oxidase-A and apoptosis in serum deprived human SH-SY5Y neuroblastoma cells. *J. Neural Transm.* 114: 807-810.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

CHROMOSOMAL LOCATION

Genetic locus: MAOA (human) mapping to Xp11.3.

PRODUCT

MAO-A (h2): 293T Lysate represents a lysate of human MAO-A transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

MAO-A (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive MAO-A antibodies. Recommended use: 10-20 µl per lane.

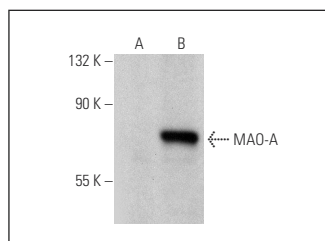
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

MAO-A (G-10): sc-271123 is recommended as a positive control antibody for Western Blot analysis of enhanced human MAO-A expression in MAO-A transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



MAO-A (G-10): sc-271123. Western blot analysis of MAO-A expression in non-transfected: sc-117752 (A) and human MAO-A transfected: sc-159481 (B) 293T whole cell lysates.

RESEARCH USE

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