

# MAO-A (T-19): sc-18397

## 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

- Wyatt, R.J., et al. 1973. Reduced monoamine oxidase activity in platelets: a possible genetic marker for vulnerability to schizophrenia. *Science* 179: 916-918.
- 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.

## CHROMOSOMAL LOCATION

Genetic locus: Maa0 (mouse) mapping to X A1.2.

## SOURCE

MAO-A (T-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of MAO-A of mouse 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-18397 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

MAO-A (T-19) is recommended for detection of MAO-A of mouse and rat 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).

MAO-A (T-19) is also recommended for detection of MAO-A in additional species, including canine and bovine.

Suitable for use as control antibody for MAO-A siRNA (m): sc-35848, MAO-A shRNA Plasmid (m): sc-35848-SH and MAO-A shRNA (m) Lentiviral Particles: sc-35848-V.

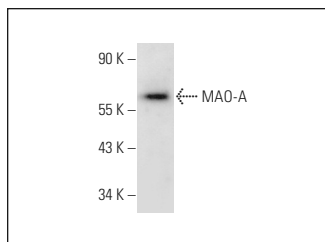
Molecular Weight of MAO-A: 61 kDa.

Positive Controls: mouse placenta extract: sc-364247 or KNRK whole cell lysate: sc-2214.

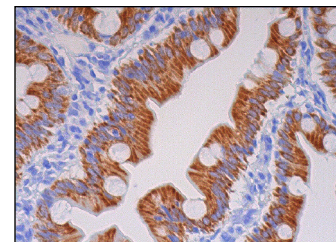
## RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



MAO-A (T-19): sc-18397. Western blot analysis of MAO-A expression in KNRK whole cell lysate.



MAO-A (T-19): sc-18397. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells.

## 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.