SANTA CRUZ BIOTECHNOLOGY, INC.

# OXA1L (12): sc-136011

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

OXA1L (oxidase (cytochrome c) assembly 1-like), also known as OXA1, is a 435 mitochondrial inner membrane protein belonging to the evolutionarily conserved Oxa1/Alb3/YidC protein family. Members of the Oxa1/Alb3/YidC protein family are involved in the biogenesis of membrane proteins in mitochondria, chloroplasts and bacteria. Existing as three isoforms produced by alternative splicing events, OXA1L is required for the insertion of integral membrane proteins into the mitochondrial inner membrane. OXA1L is essential for the activity and assembly of cytochrome oxidase and for the correct biogenesis of $F_1F_0$-ATP synthase and NADH:ubiquinone oxidoreductase. Mutations in the gene encoding OXA1L might be involved in the pathology of combined enzymatic deficiencies of the oxidative phosphorylation (OXPHOS) system.

## REFERENCES


1. Molina-Gomes, D., et al. 1995. The OXA1L gene that controls cytochrome oxidase assembly maps to the 14q11.2 region of the human genome. Genomics 30: 396-398.
2. Online Mendelian Inheritance in Man, OMIM™. 1996. Johns Hopkins University, Baltimore, MD. MIM Number: 601066. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Rötig, A., et al. 1997. Sequence and structure of the human OXA1L gene and its upstream elements. Biochim. Biophys. Acta 1361: 6-10.
4. Coenen, M.J., et al. 2005. Mutation detection in four candidate genes (OXA1L, MRS2L, YME1L and MIPEP) for combined deficiencies in the oxidative phosphorylation system. J. Inherit. Metab. Dis. 28: 1091-1097.
5. Jia, L., et al. 2007. OXA1 directly interacts with ATP9 and mediates its assembly into the mitochondrial $F_1F_0$-ATP synthase complex. Mol. Biol. Cell 18: 1897-1908.
6. Stiburek, L., et al. 2007. Knockdown of human OXA1L impairs the biogenesis of $F_1F_0$-ATP synthase and NADH:ubiquinone oxidoreductase. J. Mol. Biol. 374: 506-516.


## CHROMOSOMAL LOCATION

Genetic locus: OXA1L (human) mapping to 14q11.2; Oxa1l (mouse) mapping to 14 C2.

## SOURCE

OXA1L (12) is a mouse monoclonal antibody raised against amino acids 225-435 of OXA1L of human origin.

## PRODUCT

Each vial contains 50 µg $IgG_{2b}$ in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## APPLICATIONS

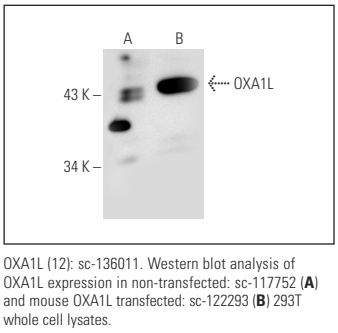
OOXA1L (12) is recommended for detection of OXA1L of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for OXA1L siRNA (h): sc-92306, OXA1L siRNA (m): sc-151950, OXA1L shRNA Plasmid (h): sc-92306-SH, OXA1L shRNA Plasmid (m): sc-151950-SH, OXA1L shRNA (h) Lentiviral Particles: sc-92306-V and OXA1L shRNA (m) Lentiviral Particles: sc-151950-V.

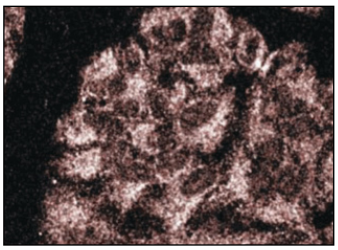
Molecular Weight of OXA1L: 42 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, OXA1L (m): 293T Lysate: sc-122293 or Hep G2 cell lysate: sc-2227.

## DATA




OXA1L (12): sc-136011. Western blot analysis of OXA1L expression in non-transfected: sc-117752 (**A**) and mouse OXA1L transfected: sc-122293 (**B**) 293T whole cell lysates.



OXA1L (12): sc-136011. Immunofluorescence staining of HeLa cells showing cytoplasmic localization.

## SELECT PRODUCT CITATIONS


1. Watanabe, A., et al. 2022. Quantitative analysis of mitochondrial calcium uniporter (MCU) and essential MCU regulator (EMRE) in mitochondria from mouse tissues and HeLa cells. FEBS Open Bio 12: 811-826.


## RESEARCH USE

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

## PROTOCOLS

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