

OXA1L (F-8): sc-365767

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. Inher. 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.
7. Bonnefoy, N., et al. 2009. Roles of Oxa1-related inner-membrane translocases in assembly of respiratory chain complexes. *Biochim. Biophys. Acta* 1793: 60-70.

CHROMOSOMAL LOCATION

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

SOURCE

OXA1L (F-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 387-413 near the C-terminus of OXA1L of mouse origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-365767 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

OXA1L (F-8) is recommended for detection of OXA1L 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 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.

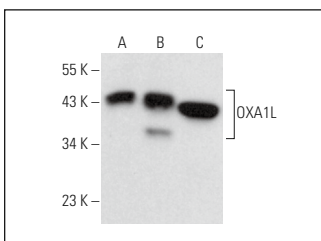
Molecular Weight of OXA1L: 42 kDa.

Positive Controls: NIH/3T3 nuclear extract: sc-2138, 3T3-L1 cell lysate: sc-2243 or F9 cell lysate: sc-2245.

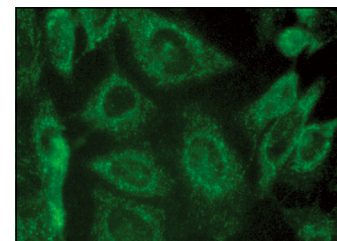
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



OXA1L (F-8): sc-365767. Western blot analysis of OXA1L expression in NIH/3T3 nuclear extract (A) and 3T3-L1 (B) and F9 (C) whole cell lysates.



OXA1L (F-8): sc-365767. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization.

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 for detailed protocols and support products.