

ARX (4A8): sc-293449

BACKGROUND

The aristaless-related homeobox (ARX) gene encodes a protein of 562 amino acids which contains two conserved domains, a C-peptide (or aristaless domain) and the prd-like class homeobox domain. ARX is a member of the group-II aristaless-related protein family and is expressed in fetal and adult brain and skeletal muscle. It may be involved in the differentiation and maintenance of neuronal cell types in the human central nervous system. Defects in the ARX gene are associated with various disorders, including X-linked mental retardation (XLMR), X-linked lissencephaly with abnormal genitalia (XLAG), X-linked infantile spasm syndrome (ISSX), X-linked myoclonic epilepsy with intellectual disability and spasticity (XMEDS), Partington syndrome (PRTS), non-specific X-linked mental retardation type 36 (MRX36) and non-specific X-linked mental retardation type 54 (MRX54).

REFERENCES

1. Stromme, P., et al. 2002. Mutations in the human ortholog of aristaless cause X-linked mental retardation and epilepsy. *Nat. Genet.* 30: 441-445.
2. Kitamura, K., et al. 2002. Mutation of ARX causes abnormal development of forebrain and testes in mice and X-linked lissencephaly with abnormal genitalia in humans. *Nat. Genet.* 32: 359-369.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 300382. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Yoshihara, S., et al. 2005. ARX homeobox gene is essential for development of mouse olfactory system. *Development* 132: 751-762.
5. Collombat, P., et al. 2005. The simultaneous loss of ARX and PAX4 genes promotes a Somatostatin-producing cell fate specification at the expense of the α - and β -cell lineages in the mouse endocrine pancreas. *Development* 132: 2969-2980.
6. Kelly, L.E., et al. 2005. Recombineered *Xenopus tropicalis* BAC expresses a GFP reporter under the control of ARX transcriptional regulatory elements in transgenic *Xenopus laevis* embryos. *Genesis* 41: 185-191.
7. Poirier, K., et al. 2005. Maternal mosaicism for mutations in th mental retardation. *Hum. Genet.* 118: 45-48.
8. Stepp, M.L., et al. 2005. XLMR in MRX families 29, 32, 33 and 38 results from the dup24 mutation in the ARX (aristaless related homeobox) gene. *BMC Med. Genet.* 6: 16.

CHROMOSOMAL LOCATION

Genetic locus: ARX (human) mapping to Xp21.3; Arx (mouse) mapping to X C3.

SOURCE

ARX (4A8) is a mouse monoclonal antibody raised against a recombinant protein mapping within amino acids 159-264, representing full length ARX of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 100 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ARX (4A8) is recommended for detection of ARX of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ARX siRNA (h): sc-60204, ARX siRNA (m): sc-60205, ARX shRNA Plasmid (h): sc-60204-SH, ARX shRNA Plasmid (m): sc-60205-SH, ARX shRNA (h) Lentiviral Particles: sc-60204-V and ARX shRNA (m) Lentiviral Particles: sc-60205-V.

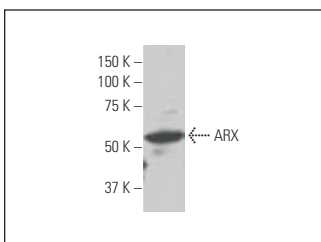
Molecular Weight of ARX: 58 kDa.

Positive Controls: SJRH30 cell lysate: sc-2287.

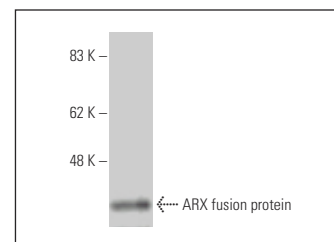
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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).

DATA



ARX (4A8): sc-293449. Western blot analysis of ARX expression in SJCRH30 whole cell lysate.



ARX (4A8): sc-293449. Western blot analysis of human recombinant ARX fusion protein.

SELECT PRODUCT CITATIONS

1. Belame Shivakumar, S., et al. 2018. Pancreatic endocrine-like cells differentiated from human umbilical cords Wharton's jelly mesenchymal stem cells using small molecules. *J. Cell. Physiol.* 234: 3933-3947.
2. Dobosz, A.M., et al. 2022. Inhibition of stearyl-CoA desaturase 1 in the mouse impairs pancreatic islet morphogenesis and promotes loss of β -cell identity and α -cell expansion in the mature pancreas. *Mol. Metab.* 67: 101659.

STORAGE

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