

ARS2 (B-11): sc-376716

BACKGROUND

ARS2 (arsenate (or arsenite-) resistance protein 2), also known as ASR2, is an 876 amino acid protein that belongs to the ARS2 family. Expressed ubiquitously in mammals and localized to the nucleus, ARS2 is evolutionarily conserved (at least 98% sequence identity among mammals) and appears to be essential for early mammalian development with a likely role in vital cellular processes. Mouse embryos lacking ARS2 exhibit excessive apoptosis and die around the time of implantation. In humans, ARS2 is known to interact with RNPS1, a protein involved in the activation of pre-mRNA splicing. In addition, the gene encoding ARS2 is located on chromosome 7 within the region that is commonly deleted in myeloid leukemia. This suggests a possible role of ARS2 in the development of myeloid leukemia. Due to alternative splicing events, ARS2 exists in four isoforms, namely isoform A, isoform B, isoform 3 and isoform 4.

REFERENCES

- Rossman, T.G., et al. 1999. Expression cloning for arsenite-resistance resulted in isolation of tumor-suppressor *fau* cDNA: possible involvement of the ubiquitin system in arsenic carcinogenesis. *Carcinogenesis* 20: 311-316.
- Rossman, T.G., et al. 2003. *Fau* and its ubiquitin-like domain (FUBI) transforms human osteogenic sarcoma (HOS) cells to anchorage-independence. *Oncogene* 22: 1817-1821.
- Beausoleil, S.A., et al. 2004. Large-scale characterization of HeLa cell nuclear phosphoproteins. *Proc. Natl. Acad. Sci. USA* 101: 12130-12135.

CHROMOSOMAL LOCATION

Genetic locus: SRRT (human) mapping to 7q22.1; *Srrt* (mouse) mapping to 5 G2.

SOURCE

ARS2 (B-11) is a mouse monoclonal antibody raised against amino acids 577-876 mapping at the C-terminus of ARS2 of human 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.

ARS2 (B-11) is available conjugated to agarose (sc-376716 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376716 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376716 PE), fluorescein (sc-376716 FITC), Alexa Fluor® 488 (sc-376716 AF488), Alexa Fluor® 546 (sc-376716 AF546), Alexa Fluor® 594 (sc-376716 AF594) or Alexa Fluor® 647 (sc-376716 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376716 AF680) or Alexa Fluor® 790 (sc-376716 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

ARS2 (B-11) is recommended for detection of ARS2 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), 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).

ARS2 (B-11) is also recommended for detection of ARS2 in additional species, including bovine.

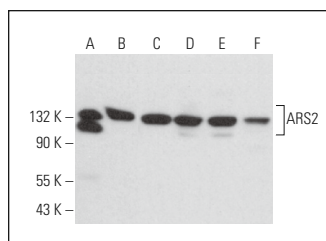
Suitable for use as control antibody for ARS2 siRNA (h): sc-89387, ARS2 siRNA (m): sc-141277, ARS2 shRNA Plasmid (h): sc-89387-SH, ARS2 shRNA Plasmid (m): sc-141277-SH, ARS2 shRNA (h) Lentiviral Particles: sc-89387-V and ARS2 shRNA (m) Lentiviral Particles: sc-141277-V.

Molecular Weight (predicted) of ARS2: 100 kDa.

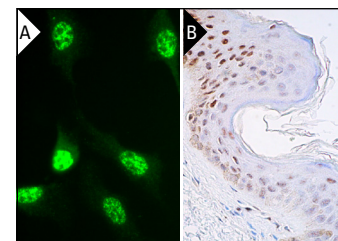
Molecular Weight (observed) of ARS2: 131 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, 3T3-L1 cell lysate: sc-2243 or c4 whole cell lysate: sc-364186.

DATA



ARS2 (B-11): sc-376716. Western blot analysis of ARS2 expression in HL-60 (A), 3T3-L1 (B), WEHI-231 (C), c4 (D), Hep G2 (E) and C6 (F) whole cell lysates.



ARS2 (B-11): sc-376716. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing nuclear staining of keratinocytes, fibroblasts, Langerhans cells and melanocytes (B).

SELECT PRODUCT CITATIONS

- Gamallat, Y., et al. 2023. Serrate RNA effector molecule (SRRT) is associated with prostate cancer progression and is a predictor of poor prognosis in lethal prostate cancer. *Cancers* 15: 2867.
- Revu, S.K., et al. 2023. Human IL-17A protein production is controlled through a PIP5K1α-dependent translational checkpoint. *Sci. Signal.* 16: eabo6555.
- Yuan, L., et al. 2024. Minnelide exhibits antileukemic activity by targeting the ARS2/miR-190a-3p axis. *Phytomedicine* 130: 155724.

RESEARCH USE

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