

VASA (L18Z): sc-80427

BACKGROUND

VASA is a 724 amino acid, ATP-dependent RNA helicase that belongs to the DEAD-box family. VASA is specifically expressed in germline cells throughout the life cycle and is undetectable in somatic tissues. In vertebrates, VASA is restricted to bisexually reproducing organisms. It is cytoplasmic and is present only in migratory primordial germ cells in the region of the gonadal ridge. In testicular sections, VASA expression is the highest in spermatogonia, reduced in spermatocytes, low in spermatids and absent in sperm. In the ovary, VASA expression is the highest in oogonia but persists throughout oogenesis. VASA has a glycine-rich N-terminus with multiple repeats of an RGG motif believed to function in RNA binding. Specifically, it regulates the translation of intricate mRNAs that are essential for differentiation.

REFERENCES

1. Castrillon, D.H., Quade, B.J., Wang, T.Y., Quigley, C. and Crum, C.P. 2000. The human VASA gene is specifically expressed in the germ cell lineage. *Proc. Natl. Acad. Sci. USA* 97: 9585-9590.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605281. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Honecker, F., Stoop, H., de Krijger, R.R., Chris Lau, Y.F., Bokemeyer, C. and Looijenga, L.H. 2004. Pathobiological implications of the expression of markers of testicular carcinoma *in situ* by fetal germ cells. *J. Pathol.* 203: 849-857.
4. Pennetier, S., Uzbekova, S., Perreau, C., Papillier, P., Mermillod, P. and Dalbiès-Tran, R. 2004. Spatio-temporal expression of the germ cell marker genes MATER, ZAR1, GDF9, BMP15 and VASA in adult bovine tissues, oocytes, and preimplantation embryos. *Biol. Reprod.* 71: 1359-1366.
5. Abdelhaleem, M. 2005. RNA helicases: regulators of differentiation. *Clin. Biochem.* 38: 499-503.
6. Stoop, H., Honecker, F., Cools, M., de Krijger, R., Bokemeyer, C. and Looijenga, L.H. 2005. Differentiation and development of human female germ cells during prenatal gonadogenesis: an immunohistochemical study. *Hum. Reprod.* 20: 1466-1476.
7. Xu, H., Gui, J. and Hong, Y. 2005. Differential expression of VASA RNA and protein during spermatogenesis and oogenesis in the gibel carp (*Carassius auratus gibelio*), a bisexually and gynogenetically reproducing vertebrate. *Dev. Dyn.* 233: 872-882.
8. Linder, P. and Lasko, P. 2006. Bent out of shape: RNA unwinding by the DEAD-box helicase VASA. *Cell* 125: 219-221.
9. Aflalo, E.D., Bakhrat, A., Raviv, S., Harari, D., Sagi, A. and Abdu, U. 2007. Characterization of a VASA-like gene from the pacific white shrimp *Litopenaeus vannamei* and its expression during oogenesis. *Mol. Reprod. Dev.* 74: 172-177

CHROMOSOMAL LOCATION

Genetic locus: DDX4 (human) mapping to 5p11.2.

SOURCE

VASA (L18Z) is a mouse monoclonal antibody raised against full length recombinant VASA of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and protein stabilizer.

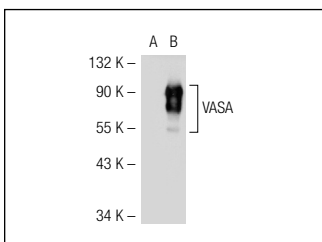
APPLICATIONS

VASA (L18Z) is recommended for detection of VASA of 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for VASA siRNA (h): sc-61772, VASA shRNA Plasmid (h): sc-61772-SH and VASA shRNA (h) Lentiviral Particles: sc-61772-V.

Molecular Weight of VASA: 83 kDa.

DATA



VASA (L18Z): sc-80427. Western blot analysis of VASA expression in non-transfected: sc-117752 (A) and human VASA transfected: sc-111520 (B) 293T whole cell lysates.

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.