10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Nanos1 Antibody

Catalog # ASC10724

Product Information

Application	WB, IF, E
Primary Accession	Q8WY41
Other Accession	Q8WY41, 41688589
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	30230
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	Nanos1 antibody can be used for detection of Nanos1 by Western blot at 1 - 2 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	340719
Other Names	Nanos homolog 1, NOS-1, EC_Rep1a, NANOS1, NOS1
Target/Specificity	NANOS1;
Reconstitution & Storage	Nanos1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	Nanos1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	NANOS1
Synonyms	NOS1
Function	May act as a translational repressor which regulates translation of specific mRNAs by forming a complex with PUM2 that associates with the 3'-UTR of mRNA targets. Capable of interfering with the proadhesive and anti-invasive functions of E-cadherin. Up-regulates the production of MMP14 to promote tumor cell invasion.
Cellular Location	Cytoplasm, perinuclear region. Cytoplasm Note=Colocalizes with SNAPIN and PUM2 in the perinuclear region of germ cells.

Tissue Location	Testis and ovary (at protein level). Predominantly expressed in testis. Specifically expressed during germline development. In adult tissues, it is mainly expressed in spermatogonia, the stem cells of the germline. Also expressed during meiosis in spermatocytes. Not present in late, post-meiotic stage germ cells Expressed in fetal ovaries, while it is weakly or not expressed in mature postmeiotic oocytes, suggesting that it may be expressed in premeiotic female germ cells. Expressed at high levels only in the E- cadherin deficient cell lines. Highly expressed in lung carcinomas and mostly detected in invasive tumor cells and its expression correlates with tumor aggressiveness.

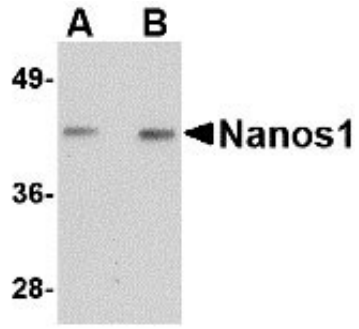
Background

Nanos1 Antibody: Nanos1 is one of three known mammalian homologs to the Drosophila gene nanos. Nanos1 is an RNA-binding protein containing a zinc-finger motif and is expressed in the developing nervous system and continues in the adult brain. Interestingly, unlike mice deficient in either nanos2 or nanos3, mice lacking the nanos1 gene develop normally with no sign of abnormalities. Recently it has been found that expression of nanos1 mRNA is down-regulated by E-cadherin in a human breast cancer cell line and the amino-terminal domain on Nanos1 interacts with the E-cadherin-binding protein p120ctn. Furthermore, overexpression of Nanos1 in human colorectal DLD1 cancer cells functionally abolished cell-cell adhesion, allowing the cancer cells to develop strong migratory and invasive properties. These results suggest that targeting Nanos1 might prove an effective strategy in the treatment of E-cadherin-negative tumors.

References

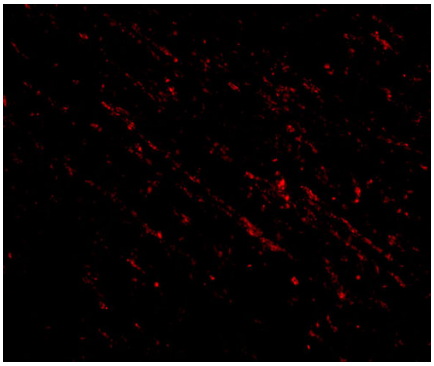
Jaruleska J, Kotecki M, Kusz K, et al. Conservation of a Pumilio-Nanos complex from Drosophila germ plasm to human germ cells. Dev. Genes Evol.2003; 213:120-6.
Tsuda M, Sasaoka Y, Kiso M, et al. Conserved role of nanos proteins in germ cell development. Science2003; 301:1239-41.
Haraguchi S, Tsuda M, Kitajima S, et al. Nanos1: a mouse nanos gene expressed in the central nervous system is dispensable for normal development. Mech. Dev.2003; 120:721-31.
Strumane K, Bonnomet A, Stove A, et al. E-cadherin regulates human Nanos1, which interacts with p120ctn and induces tumor cell migration and invasion. Cancer Res.2006; 66:10007-15.

Images



Western blot analysis of Nanos1 in rat brain tissue lysate with Nanos1 antibody at (A) 1 and (B) 2 µg/mL.

Immunofluorescence of nanos1 in human brain tissue with nanos1 antibody at 20 µg/mL.



Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.