

Nanos2 Antibody

Catalog # ASC10711

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	P60321
Other Accession	P60321 , 41688561
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	15132
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	Nanos2 antibody can be used for detection of Nanos2 by Western blot at 1 - 2 μ g/mL. Antibody can also be used for immunohistochemistry starting at 2.5 μ g/mL. For immunofluorescence start at 20 μ g/mL.

Additional Information

Gene ID	339345
Other Names	Nanos homolog 2, NOS-2, NANOS2, NOS2
Target/Specificity	NANOS2;
Reconstitution & Storage	Nanos2 antibody can be stored at 4°C for three months and -20°C, 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	Nanos2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	NANOS2
Synonyms	NOS2
Function	Plays a key role in the sexual differentiation of germ cells by promoting the male fate but suppressing the female fate. Represses the female fate pathways by suppressing meiosis, which in turn results in the promotion of the male fate. Maintains the suppression of meiosis by preventing STRA8 expression, which is required for premeiotic DNA replication, after CYP26B1 is decreased. Regulates the localization of the CCR4-NOT deadenylation complex to P-bodies and plays a role in recruiting the complex to trigger the degradation of mRNAs involved in meiosis. Required for the maintenance of

the spermatogonial stem cell population. Not essential for the assembly of P-bodies but is required for the maintenance of their normal state (By similarity).

Cellular Location

Cytoplasm. Cytoplasm, P-body. Cytoplasm, perinuclear region. Note=Localizes at P-bodies during gonocyte development (By similarity). More abundant in perinuclear region of the cytoplasm of the germ cells of the adult testis

Tissue Location

Testis and ovary. Expression found in several spermatogenic stages: in cells on the periphery of the tubules which could correspond to spermatogonia, in spermatocytes and in round spermatids (at protein level).

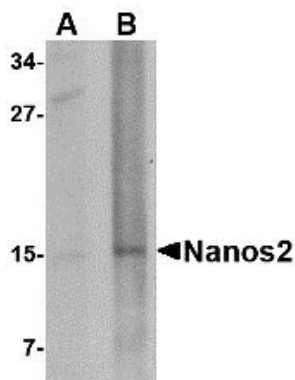
Background

Nanos2 Antibody: Nanos is a zinc-finger containing, RNA-binding protein that has been implicated in germ cell development in both invertebrates and vertebrates. In *Drosophila*, Nanos represses apoptosis during development to ensure proper germ-line development. Unlike Nanos1 whose expression in mice is dispensable, the Nanos2 and Nanos3 proteins are required for germ cell development. Nanos2-null primordial germ cells (PGCs) die only in the male gonads and show no defects in females, while Nanos3-null PGCs are lost during the migration stage regardless of sex. Nanos2 and Nanos3 have distinct expression patterns during embryo development, suggesting that these two proteins do not have redundant functions. However, expression of Nanos2 can at least partially replace Nanos3 function in a Nanos3-null background. Nanos3 expression can not rescue Nanos2-null defects. This Nanos2 antibody will not cross-react with either Nanos 1 or Nanos3.

References

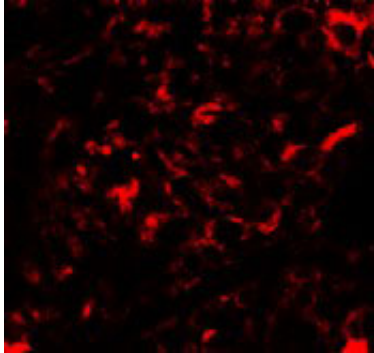
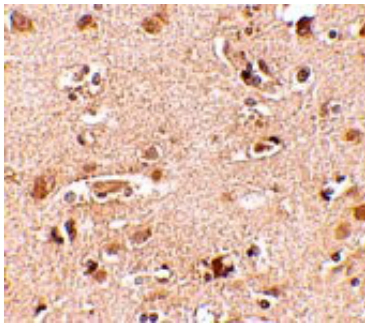
Lehmann R and Nusslein-Volhard C. The maternal gene nanos has a central role in posterior pattern formation of the drosophila embryo. *Development*1991; 112:679-91.
Tsuda M, Sasaoka Y, Kiso M, et al. Conserved role of nanos proteins in germ cell development. *Science*2003; 301:1239-41.
Sato K, Hayashi Y, Ninomiya Y, et al. Maternal Nanos represses hid/skl-dependent apoptosis to maintain the germ line in *Drosophila* embryos. *Proc. Natl. Acad. Sci. USA*2007; 104:7455-60.
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.

Images



Western blot analysis of Nanos2 in rat brain tissue lysate with Nanos2 antibody at (A) 1 and (B) 2 µg/mL.

Immunohistochemistry of Nanos2 in human brain tissue cells with Nanos2 antibody at 2.5 µg/mL.



Immunofluorescence of Nanos2 in Human Testis cells with Nanos2 antibody at 20 $\mu\text{g/mL}$.

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