

Nanos3 Antibody

Catalog # ASC10714

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	P60323
Other Accession	P60323 , 41688563
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	18844
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	Nanos3 antibody can be used for detection of Nanos3 by Western blot at 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	342977
Other Names	Nanos homolog 3, NOS-3, NANOS3, NOS3
Target/Specificity	NANOS3; This Nanos3 antibody will not cross-react with either Nanos 1 or Nanos2.
Reconstitution & Storage	Nanos3 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	Nanos3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	NANOS3
Synonyms	NOS3
Function	Plays a role in the maintenance of the undifferentiated state of germ cells regulating the spermatogonia cell cycle and inducing a prolonged transit in G1 phase. Affects cell proliferation probably by repressing translation of specific mRNAs. Maintains the germ cell lineage by suppressing both Bax-dependent and -independent apoptotic pathways. Essential in the early stage embryo to protect the migrating primordial germ cells (PGCs) from apoptosis.

Cellular Location	Nucleus. Cytoplasm. Cytoplasm, Stress granule {ECO:0000250 UniProtKB:P60324}. Cytoplasm, P-body {ECO:0000250 UniProtKB:P60324}. Note=Co-localizes with PUM2, EIF2S1 and TIAL1 in the stress granules. Co-localizes with DCP1A in the P-body {ECO:0000250 UniProtKB:P60324}
Tissue Location	Ovary, testis and brain (at protein level). In the ovaries, expressed during multiple stages of oogenesis, including primordial, primary, secondary and antral follicles with the highest expression in the oocytes. In the testis, expressed in germ cells, type A spermatogonia (SA), primary spermatocytes (S1), round spermatids (S3) and elongated spermatids.

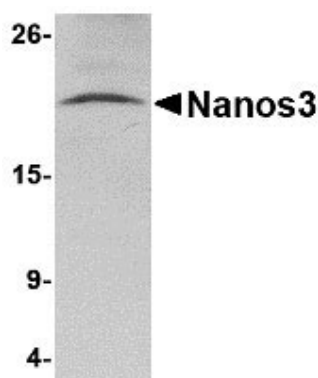
Background

Nanos3 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.

References

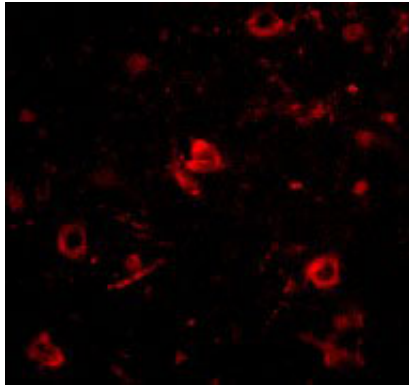
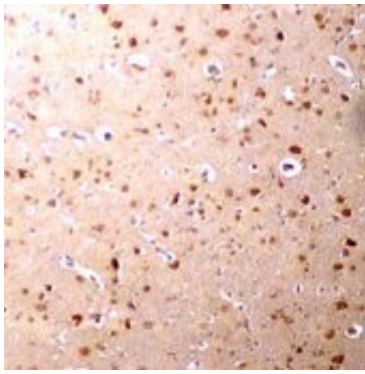
Lehmann R and Nusslein-Volhard C. The maternal gene nanos has a central role in posterior pattern formation of the *drosophila* embryo. *Development* 1991; 112:679-91.
Tsuda M, Sasaoka Y, Kiso M, et al. Conserved role of nanos proteins in germ cell development. *Science* 2003; 301:1239-41.
Sato K, Hayashi 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 Nanos3 in human brain tissue lysate with Nanos3 antibody at 2 µg/mL.

Immunohistochemistry of Nanos3 in human brain tissue with Nanos3 antibody at 2.5 µg/mL.



Immunofluorescence of Nanos3 in Human Brain tissue with Nanos3 antibody at 20 $\mu\text{g/mL}$.

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