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Stella Antibody

Catalog # ASC10747

Product Information

Application	WB, E
Primary Accession	Q6W0C5
Other Accession	NP_954980, 40548326
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	17851
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	Stella antibody can be used for detection of Stella by Western blot at 1 - 2 g/mL.

Additional Information

Gene ID	359787
Other Names	Developmental pluripotency-associated protein 3, Stella-related protein, DPPA3, STELLAR
Target/Specificity	DPPA3;
Reconstitution & Storage	Stella 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	Stella Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	DPPA3
Synonyms	STELLAR
Function	Primordial germ cell (PGCs)-specific protein involved in epigenetic chromatin reprogramming in the zygote following fertilization (PubMed:35314832). In zygotes, DNA demethylation occurs selectively in the paternal pronucleus before the first cell division, while the adjacent maternal pronucleus and certain paternally-imprinted loci are protected from this process (By similarity). Participates in protection of DNA methylation in the maternal pronucleus by preventing conversion of 5mC to 5hmC: specifically recognizes and binds histone H3 dimethylated at 'Lys-9' (H3K9me2) on maternal genome,

	and protects maternal genome from TET3-mediated conversion to 5hmC and subsequent DNA demethylation (By similarity). Does not bind paternal chromatin, which is mainly packed into protamine and does not contain much H3K9me2 mark (By similarity). Also protects imprinted loci that are marked with H3K9me2 in mature sperm from DNA demethylation in early embryogenesis (By similarity). May be important for the totipotent/pluripotent states continuing through preimplantation development (By similarity). Also involved in chromatin condensation in oocytogenesis (By similarity).
Cellular Location	Nucleus. Cytoplasm. Note=Mainly localizes in the female pronucleus, localization to the male pronucleus in much weaker {ECO:0000250|UniProtKB:Q8QZY3}
Tissue Location	Low expression in testis, ovary and thymus. Expressed in embryonic stem and carcinoma cells. Highly expressed in testicular germ cell tumors.

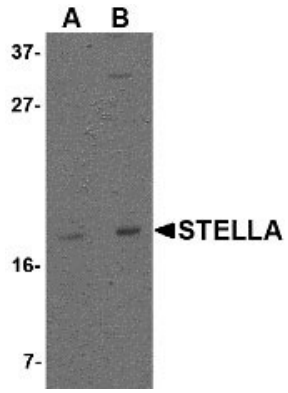
Background

Stella Antibody: Stella was initially identified in primordial germ cells and pre-implantation embryos whose expression as a maternal factor is important in early embryonic development but is not required for germ cell specification in mice. In humans, Stella is thought to be a marker for pluripotency in embryonic stem (ES) cells as its expression is observed in primordial germ cells of both sexes and germ cell tumors but not in normal somatic tissues. However, in ES cell colonies, heterogeneous expression of Stella was seen in high throughput in situ hybridization assays, indicating that higher levels of complexity exist in otherwise thought to be undifferentiated ES cells. At least two distinct isoforms of Stella are known to exist.

References

Sato M, Kimura T, Kurokawa K, et al. Identification of PGC7, a new gene expressed specifically in preimplatation embryos and germ cells. Mech. Dev.2002; 113:91-4.
Bortvin A, Goodheart M, Liao M, et al. Dppa3/Pgc7/stella is a maternal factor and is not required for germ cell specification in mice. BMC Dev. Biol.2004; 4:2.
Bowles J, Teasdale RP, James K, et al. Dppa3 is a marker of pluripotency and has a human homologue that is expressed in germ cell tumours. Cytogenet. Genome Res.2003; 101:261-5.
Carter MG, Stagg CA, Falco G, et al. An in situ hybridization-based screen for heterogeneously expressed genes in mouse ES cells. Gene Expr. Patterns2008; 8:181-8.

Images



Western blot analysis of Stella in 293 cell lysate with Stella antibody at (A) 1 and (B) 2 µg/mL.

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