

## Stem Cell Markers Antibodies to Primordial Germ Cells and Ectoderm

Acris Antibodies offers an extensive range of antibodies for stem cells. In this FocusOn we present markers to primordial germ cells and ectoderm (see table on back).

### Primordial germ cell markers

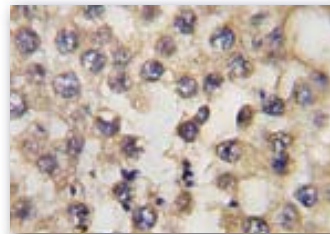
**Dead-box protein 4 (DDX4)** is a homolog of the Drosophila protein VASA. DDX4 is a germline marker expressed only in the ovary and testis. DDX4 is expressed in spermatogenic cells from the spermatocyte stage to the round spermatid stage and in migratory primordial germ cells in the region of the gonadal ridge in both sexes.

**Nanos2 (Nos2)** is required to support proliferation and self-renewal of proximal germ cells in males only. Nanos2 probably regulates translation of specific mRNAs by associating with the 3'-UTR of mRNA targets, and it is essential for spermatogonia formation. The Nanos-type zinc finger is composed of two C2HC motifs, each motif binding one molecule of zinc. It is essential for the translation repression activity of the protein.

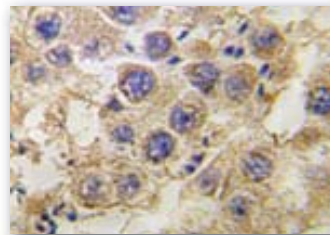
### Ectodermal markers

**GFAP** is one of the major intermediate filament proteins of mature astrocytes. It is used as a marker to distinguish astrocytes from other glial cells during development. Mutations in this gene cause Alexander disease, a rare disorder of astrocytes in the central nervous system. The most common form affects infants and young children. Patients with juvenile or adult forms typically experience ataxia, bulbar signs and spasticity and a more slowly progressive course.

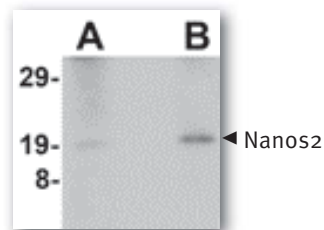
**Olig2** is required for oligodendrocyte and motor neuron specification in the spinal cord. Olig2 is also a marker for the most common primary tumors of the human brain thought to be of glial cell origin. Therefore, there is diagnostic potential of Olig markers to augment identification of oligodendroglial tumors.



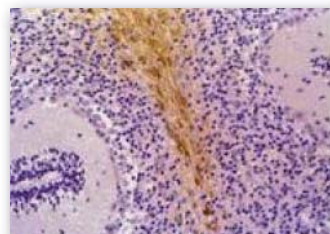
*Fig. 1: Formalin-fixed and paraffin-embedded (FFPE) human testis tissue reacted with DDX4 antibody (N-term) Cat.-No. AP11351PU-N; peroxidase-conjugated secondary antibody, followed by DAB staining*



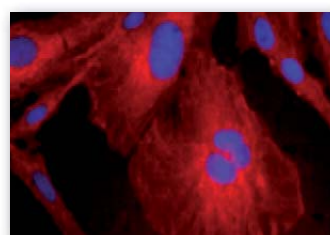
*Fig. 2: Human testis tissue (FFPE) reacted with Nanos2 antibody Cat.-No. AP12355PU-N; peroxidase-conjugated secondary antibody, followed by DAB staining*



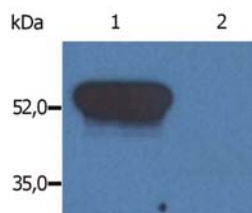
*Fig. 3: Western blot analysis of Nanos2 in human testis lysate with Cat.-No. AP30581PU-N at (A) 2 and (B) 4 μg/ml*



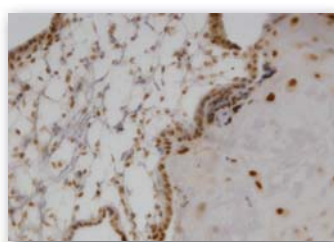
*Fig. 4: Immunohistochemistry staining of human cerebellum (FFPE sections) with GFAP antibody clone GF-01 Cat.-No. BM4069S*



*Fig. 5: Immunohistochemical staining: CCF STTG1 cell line (fixed with 5% acetic acid methanol solution) stained with GFAP-Cy3 antibody Cat.-No. AM08204C3-N; Cells were then fixed and the slide was mounted with DAPI-Fluormount-G*



**Fig. 6:** Western blotting analysis (reducing conditions) of GFAP in porcine brain lysate:  
Lane 1: immunostaining with anti GFAP (clone GF-02) Cat.-No. AM03085PU-N,  
Lane 2: immunostaining with mouse IgM isotype control (clone PFR-03) Cat.-No. AM03111PU-N



**Fig. 7:** Immunoperoxidase staining of monoclonal antibody to Olig2 Cat.-No. H00010215-M03 on formalin-fixed paraffin-embedded human placenta (antibody concentration 3 µg/ml)

The table below summarizes Acris Antibodies primordial germ cells/ectoderm antibodies. Refer to [www.acris-antibodies.com](http://www.acris-antibodies.com) and our other FocusOn antibody panel for a comprehensive listing of our products for stem cells research:

- FocusOn 104: Primordial Germ Cells and Ectoderm
- FocusOn 105: Neural Stem Cells
- FocusOn 106: Embryonic Stem Cells
- FocusOn 053: Mesenchymal Stem Cells
- FocusOn 054: Hematopoietic Stem Cells
- FocusOn 055: Induced Pluripotency (iPS)

#### Selected Acris Antibodies Panel to Primordial Germ Cells and Ectoderm

Name	Property	Host/Isotype	Clone	Reactivity	Application	Catalog-No.
<b>PRIMORDIAL GERM CELLS</b>						
DDX4 / Dead-box protein 4	N-term	Rabbit	-	Hu	E, P, WB	AP11351PU-N
	C-term	Rabbit	-	Hu	E, P, WB	AP11352PU-N
	-	Rabbit	-	Can, Eq, Hu, Mky, Ms	P	AP21727PU-N
Nanos2	C-term	Rabbit	-	Hu,	E, P	AP12355PU-N
	C-term	Rabbit IgG	-	Hu, Ms, Rt	E, WB	AP30581PU-N
	N-term	Rabbit IgG	-	Hu, Ms, Rt	E, P, WB	AP30582PU-N
<b>ECTODERM</b>						
GFAP	N-term	Rabbit	-	Hu	E, P, WB	AP11878PU-N
	-	Mouse IgG1	DP46.10	Hu, Ms, Rb	C, P	AM05534PU-N
	-	Mouse IgG2b	GF-01	Hu, Fe, Por	IF, IP, P, WB	BM4069S
	-	Mouse IgM	GF-02	Hu, Por	C, IF, P, WB	AM03085PU-N
	-	Mouse IgG2b	SB61b	Hu	C, WB	AM08204PU-N
	C-term	Rabbit IgG	SP78	Hu	P	AM09113PU-S
	-	Mouse IgG1	SPM507	Chk, Hu, Por, Rt	P	AM11137PU-S
Olig2	-	Rabbit IgG	-	Hu, Ms, Rt	C, IF, IP, WB	AP08716PU-N
	-	Rabbit	-	Hu, Ms, Rt	P	AP22074PU-N
	-	Mouse IgG2a	3C9	Hu	E, P, WB	H00010215-M03

Can: Canine, Chk: Chicken, Eq: Horse, Fe: Cat, Hu: Human, Mky: Monkey, Ms: Mouse, Por: Pig, Rb: Rabbit, Rt: Rat

C: Immunohistochemistry on frozen sections, E: ELISA, IF: Immunofluorescence, IP: Immunoprecipitation, P: Immunohistochemistry on formalin-fixed, paraffin-embedded tissue sections, WB: Western blot