Product datasheet

Anti-Nanog antibody ab80892

18 Abreviews  152 References  6 Images

Overview

Product name   Anti-Nanog antibody
Description    Rabbit polyclonal to Nanog
Host species   Rabbit
Tested applications

Suitable for: Flow Cyt, IHC - Wholemount, ICC, WB, IHC-P, ICC/IF

Species reactivity

Reacts with: Mouse

Immunogen

Recombinant full length protein corresponding to Mouse Nanog.

Positive control

ICC/IF: Mouse embryonic stem cells. WB: Mouse embryonic stem cell line D3. IHC-P: Mouse teratoma tissue. IHC-Wm: Mouse pre-implantation embryo. Flow Cyt: Mouse embryonic stem cells.

Properties

Form   Liquid

Storage instructions

Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.

Storage buffer

Preservative: 0.1% Sodium azide
Constituent: PBS

Purity

Immunogen affinity purified

Clonality

Polyclonal

Isotype

IgG

Applications

Our Abpromise guarantee covers the use of ab80892 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow Cyt</td>
<td>⭐⭐⭐⭐⭐</td>
<td>Use at an assay dependent concentration. ab171870 - Rabbit polyclonal IgG, is suitable for use as an isotype control with this antibody.</td>
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<tr>
<td>Application</td>
<td>Abreviews</td>
<td>Notes</td>
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<tr>
<td>IHC - Wholemount</td>
<td>🌟🌟🌟🌟🌟</td>
<td>Use at an assay dependent concentration.</td>
</tr>
<tr>
<td>ICC</td>
<td>🌟🌟🌟🌟🌟</td>
<td>1/150 - 1/700.</td>
</tr>
<tr>
<td>WB</td>
<td>🌟🌟🌟🌟🌟</td>
<td>1/300 - 1/2000. Detects a band of approximately 35 kDa (predicted molecular weight: 35 kDa).</td>
</tr>
<tr>
<td>IHC-P</td>
<td>🌟🌟🌟🌟🌟</td>
<td>1/400. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.</td>
</tr>
<tr>
<td>ICC/IF</td>
<td>🌟🌟🌟🌟🌟</td>
<td>Use at an assay dependent concentration.</td>
</tr>
</tbody>
</table>

**Target**

**Function**
Transcription regulator involved in inner cell mass and embryonic stem (ES) cells proliferation and self-renewal. Imposes pluripotency on ES cells and prevents their differentiation towards extraembryonic endoderm and trophectoderm lineages. Blocks an morphogenetic protein-induced mesoderm differentiation of ES cells by physically interacting with SMAD1 and interfering with the recruitment of coactivators to the active SMAD transcriptional complexes (By similarity). Acts as a transcriptional activator or repressor (By similarity). Binds optimally to the DNA consensus sequence 5'-TAAT[GT][GT]-3' or 5'-[CG][GA][CG][GC]ATTAN[GC]-3' (By similarity). When overexpressed, promotes cells to enter into S phase and proliferation.

**Tissue specificity**
Expressed in testicular carcinoma and derived germ cell tumors (at protein level). Expressed in fetal gonads, ovary and testis. Also expressed in ovary teratocarcinoma cell line and testicular embryonic carcinoma. Not expressed in many somatic organs and oocytes.

**Sequence similarities**
Belongs to the Nanog homeobox family. Contains 1 homeobox DNA-binding domain.

**Developmental stage**
Expressed in embryonic stem (ES) and carcinoma (EC) cells. Expressed in inner cell mass (ICM) of the blastocyst and gonocytes between 14 and 19 weeks of gestation (at protein level). Not expressed in oocytes, unfertilized oocytes, 2-16 cell embryos and early morula (at protein level). Expressed in embryonic stem cells (ES). Expression decreases with ES differentiation.

**Cellular localization**
Nucleus.

**Images**
Spatio-temporal changes in expression of pluripotency markers and self-organization of stem cell-derived aggregates in 3D culture.

Panels A-D: Expression of the pluripotency marker Nanog decreases as vesicles mature between differentiation days 5–8.

Panels A’-D’: Progression of outer epithelium ruffling indicating self-organization.

Three mouse embryonic stem cell aggregates were fixed with 4% paraformaldehyde, then cryoprotected with a serial treatment of 15% and 30% sucrose and embedded in tissue freezing medium. Frozen tissue blocks were sectioned into 10 or 12 μm cryosections. For immunostaining, a 3% goat or horse serum and 0.1% Triton-X100 solution was used for primary antibody incubation. An Alexa Fluor® 488, 568, or 647 conjugated anti-mouse IgG or anti-goat IgG and an Alexa Fluor 568 or 647 conjugated anti-rabbit IgG were used as secondary antibodies. A DAPI counterstain was used to visualize cellular nuclei.

Microscopy was performed on a Nikon TE2000 Inverted Microscope or an Olympus FV1000-MPE Confocal/Multiphoton Microscope.

ab80892 staining Nanog in mouse embryonic stem cells by immunocytochemistry/immunofluorescence.

Cells were paraformaldehyde fixed and permeabilized in Tween-20 prior to blocking in 20% serum for 30 minutes at 25°C. The primary antibody was diluted 1/100 and incubated with the sample for 4 hour at 25°C. A Cy®5 conjugated goat polyclonal to rabbit IgG antibody, diluted 1/100, was used as the secondary.

Nuclear staining with DAPI.
All lanes: Anti-Nanog antibody (ab80892) at 1/500 dilution

Lane 1: Marker
Lanes 2-3: Mouse embryonic stem cell line D3
Lanes 4-5: Mutant mouse embryonic stem cell line known to not express nanog

Lysates/proteins at 200000 cells per lane.

Secondary
All lanes: goat anti-rabbit HRP at 1/2000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 35 kDa
Observed band size: 40 kDa

why is the actual band size different from the predicted?

Exposure time: 10 minutes

Blocked with milk for 30 minutes.
ab80892 staining mouse teratoma sections by IHC-P. The tissue was fixed with formaldehyde and a heat mediated antigen retrieval step was performed with citric acid pH 6. Blocking of the sample was done with 1% BSA for 10 minutes at 21°C, followed by staining with ab80892 at 1/400 in TBS/BSA/azide for 2h at 21°C. A biotinylated goat anti-rabbit polyclonal antibody at 1/200 was used as the secondary antibody.

IHC-Wholemount image of anti-Nanog antibody (ab80892) staining on a mouse pre-implantation embryo.

This embryo was fixed in paraformaldehyde, permeabilized in 0.25% Triton X and then blocked in 5% serum for 1 hour at room temperature. It was stained with anti-Nanog antibody overnight at 4 degrees (right), and DAPI (left).
Overlay histogram of Nanog staining in mouse embryonic stem cells using ab80892, at 1:100 dilution.

Purple histogram represents negative control (rabbit IgG).

Green line represents anti-Nanog antibody (ab80892).

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