

AP16396PU-N**Polyclonal Antibody to NANOG (144-157) - Aff - Purified****Alternate names:**

Homeobox protein NANOG

Quantity:

0.1 mg

Concentration:

0.5 mg/ml

Background:

Nanog is a newly identified homeodomain-bearing transcriptional factor. Nanog expression is specific to early embryos and pluripotential stem cells including mouse and human embryonic stem (ES) and embryonic germ (EG) cells. It is a key molecule involved in the signaling pathway for maintaining the capacity for self-renewal and pluripotency, bypassing regulation by the STAT3 pathway. Nanog mRNA is present in pluripotent mouse and human cell lines, and absent from differentiated cells. Nanog-deficient ES cells lose pluripotency and differentiate into extraembryonic endoderm lineage. Thus it is one of the molecular markers suitable for recognizing the undifferentiated state of stem cells in the mouse and human.

NANOG is a new marker for testicular carcinoma in situ and germ cell tumors.

Uniprot ID:[Q9H9S0](#)**NCBI:**[9606](#)**GeneID:**[79923](#)**Host:**

Goat

Immunogen:

Peptide from the internal region of the protein sequence according to NP_079141.2.

AA Sequence:

C-QNQRMKSKRWQKNN

Format:**State:** Liquid purified Ig fraction**Purification:** Ammonium sulphate precipitation followed by Antigen Affinity Chromatography using the immunizing peptide**Buffer System:** Tris saline, pH~7.3**Preservatives:** 0.02% Sodium Azide**Stabilizers:** 0.5% BSA**Applications:****Peptide ELISA:** 1/64000 (Detection Limit).**Western blot:** 0.03-0.1 µg/ml. Approx 38kDa band observed in Human Ovary lysates (calculated MW of 34.6kDa according to NP_079141.1).**Immunofluorescence:** Parts of a keratinocyte-derived colony of induced pluripotent stem cells are stained for Nanog (green). (See also Ref.2)This antibody **does not** work in PFA-fixed frozen embryos and ESC from Mouse.

Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity:

This antibody is specific to NANOG.

Species Reactivity:**Tested:** Human, Pig.**Expected from sequence similarity:** Canine (Dog).

Storage:

Store undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer.
Avoid repeated freezing and thawing.
Shelf life: one year from despatch.

Product Citations:**Originator or purchased from resellers:**

1. Montserrat N, Ramírez-Bajo MJ, Xia Y, Sancho-Martinez I, Moya-Rull D, Miquel-Serra L, et al. Generation of induced pluripotent stem cells from human renal proximal tubular cells with only two transcription factors, OCT4 and SOX2. *J Biol Chem*. 2012 Jul 13;287(29):24131-8. doi: 10.1074/jbc.M112.350413. Epub 2012 May 21. PubMed PMID: 22613719.
2. Vassena R, Montserrat N, Carrasco Canal B, Aran B, de Oñate L, Veiga A, et al. Accumulation of instability in serial differentiation and reprogramming of parthenogenetic human cells. *Hum Mol Genet*. 2012 Aug 1;21(15):3366-73. doi: 10.1093/hmg/ddc168. Epub 2012 Apr 30. PubMed PMID: 22547223.
3. Raya A, Rodríguez-Pizà I, Guenechea G, Vassena R, Navarro S, Barrero MJ, et al. Disease-corrected haematopoietic progenitors from Fanconi anaemia induced pluripotent stem cells. *Nature*. 2009 Jul 2;460(7251):53-9. doi: 10.1038/nature08129. Epub 2009 May 31. PubMed PMID: 19483674.
4. Montserrat N, Garreta E, González F, Gutiérrez J, Eguizábal C, Ramos V, et al. Simple generation of human induced pluripotent stem cells using poly-beta-amino esters as the non-viral gene delivery system. *J Biol Chem*. 2011 Apr 8;286(14):12417-28. doi: 10.1074/jbc.M110.168013. Epub 2011 Feb 1. PubMed PMID: 21285354.
5. Montserrat N, Bahima EG, Batlle L, Häfner S, Rodrigues AM, González F, et al. Generation of pig iPS cells: a model for cell therapy. *J Cardiovasc Transl Res*. 2011 Apr;4(2):121-30. doi: 10.1007/s12265-010-9233-3. Epub 2010 Nov 19. PubMed PMID: 21088946.
6. Rodríguez-Pizà I, Richaud-Patin Y, Vassena R, González F, Barrero MJ, Veiga A, et al. Reprogramming of human fibroblasts to induced pluripotent stem cells under xeno-free conditions. *Stem Cells*. 2010 Jan;28(1):36-44. doi: 10.1002/stem.248. PubMed PMID: 19890879.
7. Aasen T, Raya A, Barrero MJ, Garreta E, Consiglio A, Gonzalez F, et al. Efficient and rapid generation of induced pluripotent stem cells from human keratinocytes. *Nat Biotechnol*. 2008 Nov;26(11):1276-84. doi: 10.1038/nbt.1503. Epub 2008 Oct 17. PubMed PMID: 18931654.

General Readings:

1. Raya A et al. Disease-corrected haematopoietic progenitors from Fanconi anaemia induced pluripotent stem cells. *Nature*. 2009 Jul 2;460(7251):53-9. PMID: 19483674
2. Montserrat N, Garreta E, González F, Gutiérrez J, Eguizábal C, Ramos V, Borrós S, Izpisua Belmonte JC. Simple generation of human induced pluripotent stem cells using poly-beta-amino esters as the non-viral gene delivery system. *J Biol Chem*. 2011 Apr 8;286(14):12417-28. PMID: 21285354
3. Montserrat N, Bahima EG, Batlle L, Häfner S, Rodrigues AM, González F, Belmonte JC. Generation of pig iPS cells: a model for cell therapy. *J Cardiovasc Transl Res*. 2011 Apr;4(2):121-30. PMID: 21088946
4. Rodríguez-Pizà I, Richaud-Patin Y, Vassena R, González F, Barrero MJ, Veiga A, Raya A, Belmonte JC. Reprogramming of human fibroblasts to induced pluripotent stem cells under xeno-free conditions.

Stem Cells. 2010 Jan;28(1):36-44. PMID: 19890879

5. Aasen T, Raya A, Barrero MJ, Garreta E, Consiglio A, Gonzalez F, Vassena R, Bilić J, Pekarik V, Tiscornia G, Edel M, Boué S, Izpisua Belmonte JC. Efficient and rapid generation of induced pluripotent stem cells from human keratinocytes. Nat Biotechnol. 2008 Nov;26(11):1276-84. PMID: 18931654

6. Montserrat N, Ramírez-Bajo MJ, Xia Y, Sancho-Martinez I, Moya-Rull D, Miquel-Serra L, Yang S, Nivet E, Cortina C, González F, Izpisua Belmonte JC, Campistol JM. Generation of induced pluripotent stem cells from human renal proximal tubular cells with only two transcription factors, oct4 and sox2. J Biol Chem. 2012 Jul 13;287(29):24131-8. PMID: 22613719

Pictures:

TA303048 (0.03µg/ml) staining of Human Ovary lysate (35µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

