

PRODUCT DATA SHEET

Product: Anti-Mouse Nanog, polyclonal

Cat. No.: PC-097 (100 µL)

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Description:

Leukemia inhibitory factor (LIF) is commonly used to maintain the symmetrical self-renewal of mouse embryonic stem (ES) cells^{1,2}. Recent studies^{3,4} have shown that the homeoprotein Nanog (ECAT4, ES cell-associated transcript 4) has two important properties. Nanog plays a fundamental role in pluripotency of both ES cells and inner cell mass, and it has the ability to maintain the self-renewal of ES cells without LIF. On the other hand, Oct 3/4 and STAT 3, two well-known players in pluripotency, have only one of the above two properties.

Identification of critical regulatory genes such as Nanog is an important step in understanding early embryogenesis and in exploiting pluripotent cells for therapeutic goals. Anti-mouse Nanog antibody would be a very useful tool for elucidating the mechanism of pluripotency maintenance in ES cells and visceral endoderm.

Specificity:

Recognizes mouse Nanog.

Species Reactivity:

Mouse. Western blotting application for mouse only. Cross reactivity with monkey and human observed in immunocytochemistry,

Host:

Rabbit

Immunogen:

Mouse Nanog protein.

Format:

Affinity-purified immunoglobulin at 0.2 mg/mL in PBS with 0.1% sodium azide.

Storage and Stability:

Store at -20°C until use. Once thawed, do not refreeze. The antibody is stable at 4°C for several months.

Applications and Suggested Dilutions:

- Immunocytochemistry: Use at 1:150–1:700.
- Western blot: Use at 1:300–1:2,000. Detects bands at 37–44 kDa.
- Immunoprecipitation: Use at 1:300

The optimal dilution for a specific application should be determined by the researcher.

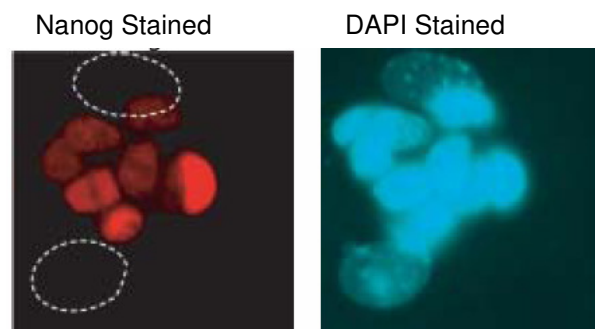


Figure 1: Immunocytochemistry with PC-097
Feeder cells are indicated by dotted line circle.

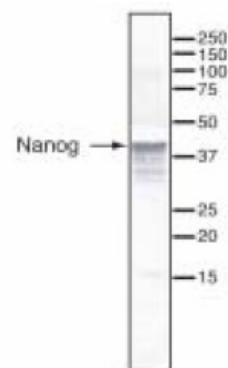
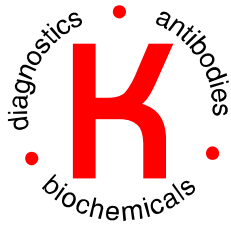


Figure 2: Western blot with PC-097



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References:

1. Smith, A.G., et al. Inhibition of pluripotential embryonic stem cell differentiation by purified polypeptides. *Nature* 336:688-690 (1988).
2. Williams, R.L., et al. Myeloid leukemia inhibitory factor maintains the developmental potential of embryonic stem cells. *Nature* 336:684-687 (1988).
3. Chambers, I., et al. Functional expression cloning of Nanog, a pluripotency sustaining factor in embryonic stem cells. *Cell* 113:643-655 (2003).
4. Mitsui, K., et al. The homeoprotein Nanog is required for maintenance of pluripotency in mouse epiblast and ES cells. *Cell* 113:631-642 (2003).
5. Hatano, S.Y., et al. Pluripotential competence of cells associated with Nanog activity. *Mech. Dev.* 122:67-79 (2005)
6. Yamaguchi, S. et al., Nanog expression in mouse germ cell development. *Gene Expression Patterns*. 5(5):639-646 (2005)

Limitations:

For *in vitro* research use only. Not for use in diagnostics or in humans.

Warranty:

No warranties, expressed or implied, are made regarding the use of this product. **KAMIYA BIOMEDICAL COMPANY** is not liable for any damage, personal injury, or economic loss caused by this product.