3050 Spruce Street, St. Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

Product Information

Anti-Oct 3/4
produced in rabbit, affinity isolated antibody

Catalog Number **O8389**

Product Description

Anti-Oct 3/4 is produced in rabbit using as immunogen a synthetic peptide corresponding to internal residues of human Oct 3/4 (GeneID 5460). Sequence is 84% identical and 94% positive in mouse and rat.
The antibody is affinity-purified.

Anti- Oct 3/4 recognizes human Oct 3/4. Applications include the detection of Oct 3/4 by immunoblotting and immunohistochemistry.

Oct 3/4 maintains developmental potency and governs distinct fates of embryonic stem cells. A moderate increase in expression causes differentiation into primitive endoderm and mesoderm. In contrast, repression of Oct 3/4 induces loss of pluripotency and dedifferentiation to trophectoderm. Thus, a critical amount of Oct 3/4 is required to sustain stem cell self-renewal, and up- or down-regulation induces divergent developmental programs. Data suggest that Oct 3/4 is a master regulator of pluripotency that controls lineage commitment.

Reagent

Supplied as a solution in phosphate buffered saline, containing 0.02% sodium azide.

Antibody concentration: ~1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to three months. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended.

Product Profile

Immunoblotting: a working dilution of 1:500 to 1:1,000 is recommended.

Immunohistochemistry: a working dilution of 1:100 to 1:250 is recommended.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

1. Zeineddine, D., et al., Oct-3/4 dose dependently regulates specification of embryonic stem cells toward a cardiac lineage and early heart development. *Dev. Cell* **11**: 535-546 (2006).
2. Niwa, H., et al., Quantitative expression of Oct-3/4 defines differentiation, dedifferentiation or self-renewal of ES cells. *Nature Genet.* **24**: 372-376 (2000).
3. Nichols, J., et al., Formation of pluripotent stem cells in the mammalian embryo depends on the POU transcription factor Oct4. *Cell* **95**: 379-391 (1998).

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