

## Product Information

**Anti-Nanog antibody, Mouse monoclonal**  
clone NNG-811, purified from hybridoma cell culture

Catalog Number **N3038**

### Product Description

Anti-Nanog antibody, Mouse monoclonal (mouse IgG1 isotype) is derived from the hybridoma NNG-811 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with recombinant human Nanog (Gene ID: 79923). The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2.

Anti-Nanog antibody, Mouse monoclonal reacts specifically with human Nanog. Applications include ELISA, immunoblotting (~ 40 kDa), immunocytochemistry and immunoprecipitation.

Nanog is a homeodomain transcription factor expressed in cells of the inner cell mass of early embryos, in embryonic stem cells (ESC), germ cells and in stem/progenitor cells of some tissues. Together with Oct-4, Sox-2, and Rex-1, it is a molecular marker for pluripotent cells and for undifferentiated stem cells.<sup>1-5</sup> This protein is crucial for the maintenance of pluripotency of ESCs and is down-regulated when ESCs differentiate. Nanog controls the expression of many ESC genes together with other stem cell transcription factors like Oct-4 and Sox-2. Nanog targets both repressor and activator complexes to regulatory regions of hundreds of genes in the genome.<sup>1,6</sup> Expression of nanog can be detected primarily in germ cell tumors and in tumors of other cell types. Nanog is an important marker for Seminomas, testicular carcinomas, teratocarcinomas, and germ cell-like tumors in various tissues.<sup>7-11</sup> Furthermore, it was shown to transform NIH3T3 cells.<sup>12</sup> The human Nanog gene product is a 305 amino acid, 35 kDa protein with a tryptophan repeat domain and two C-terminal trans-activating domains.<sup>13</sup> It is primarily located in the nucleus. An alternative splice variant and 10 processed pseudogenes as well as one tandem duplicate of Nanog are represented in the human genome.<sup>14</sup>

### Reagent

Supplied as a solution in 0.01M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~ 2 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 extended storage, freeze at -20 °C in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

### Product Profile

**Immunoblotting:** a working antibody concentration of 4-8 µg/mL is recommended using extracts of NT2 cells.

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

### References

1. Chambres, I., et al., *Cell*, **113**, 643-655 (2003).
2. Bellafiore, M., et al., *Cell*, **38**, 345-351 (2006).
3. Chazaud, C., et al., *Dev. Cell*, **10**, 615-624 (2006).
4. Redvers, R.P., et al., *Proc. Natl. Acad. Sci. USA*, **103**, 13168-13173 (2006).
5. Yan, Q.J., et al., *Rejuvenation Res.*, **8**, 248-253 (2006).
6. Boyer, L.A., et al., *Cell*, **122**, 947-956 (2005).
7. Almstrup, K., et al., *Cancer Res.*, **64**, 4736-4743 (2004).
8. Chen, Y., et al., *Cell Res.*, **16**, 641-650 (2006).

9. Ezeh, U.I., et al., *Cancer*, **104**, 2255-2265 (2005).
10. Iczkowski, K.A., and Butler, S.L., *Anal Quant. Cytol. Histol.*, **28**, 181-187 (2006).
11. Santagata, S., et al., *Am. J. Surg. Pathol.*, **30**, 1613-1618 (2006).
12. Piestum, D., et al., *Biochem. Biophys. Res. Commun.*, **343**, 279-285 (2006).
13. Pan, G., and Pei, D.Q., *J. Biol. Chem.*, **280**, 1401-1407 (2005).
14. Booth, H., and Holland, P.W., *Genomics*, **84**, 229-238 (2004).

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