TECHNICAL DATA SHEET

PRODUCT NAME Mouse NANOG/A primer Pairs			
Official full name: Nanog homeobox **Primary source:** MGI: 1919200			
Cat. No: pp-1019-050	**Size:** 50 µl	**Concentration:** 10 µM	**Lot #:** 001
Cat. No: pp-1019-500	**Size:** 500 µl	**Concentration:** 10 µM	**Lot #:** 001

10 sets of our primer pairs: 50 µl (see our list)
500 µl

Description: The primer pair cat#: pp1019 (-050, -500) is specific to a DNA region located about 300 bp upstream the mouse NANOG gene as shown below (**Figure 1**) [1, 2]. These primers can be used to amplify DNA isolated by chromatin immunoprecipitation (ChIP). Primers are optimized to be used in quantitative polymerase chain reaction (qPCR) (**Figures 2, 3 and 4**). See overview below.

Expected PCR product size: 175 base pairs (bp).

Specificity: Mouse: positive
Other species: not tested

Format: In solution in MiliQ water at the concentration of 10 µM (each oligonucleotide primer is at the final concentration of 5 µM).

Storage: For long storage, store at -20°C. Avoid multiple freeze-thaw cycles.

Precautions: This product is for research use only. Not for use in diagnostic or therapeutic procedures.

References:
[1] O'Neill L.P., VerMilyea M.D. and Turner B.M. (2006) Nat. Genet. 38 (7): 835-41.
[2] Hart A.H., Hartley L., Ibrahim M. and Robb L. (2004) Dev. Dyn. 230 (1): 187-98.
[3] Pan G. and Thomson J.A. (2007) Cell Res. 17 (1): 42-9.

Availability date: July 16, 2007

Last data sheet update: August 03, 2007

Lot #: 001/ day of the synthesis: May 25, 2007/ day of QC: June 27, 2007/ aliquoting day: July 31, 2007

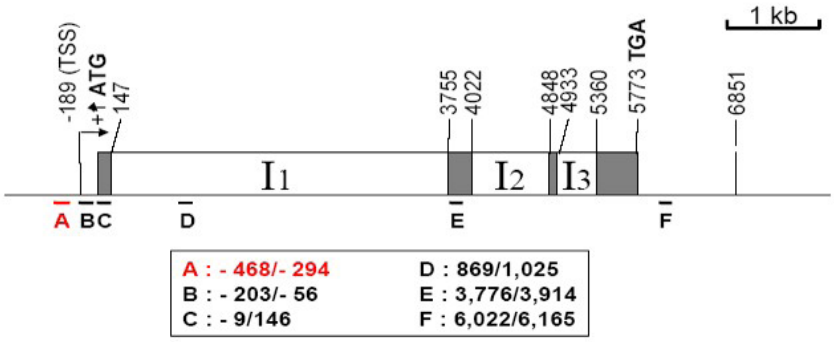

Figure 1

Regions amplified upstream and in the mouse NANOG gene (+1 to +6851) using five Diagenode primer pairs are shown. The primer pairs are: primers for mouse NANOG/A (pp-1019-050, -500), primers for mouse NANOG/B (pp-1020-050, -500), primers for mouse NANOG/C (pp-1021-050, -500), primers for mouse NANOG/D (pp-1022-050, -500), primers for mouse NANOG/E (pp-1023-050, -500) and primers for mouse NANOG/F (pp-1024-050, -500). Regions amplified by polymerase chain reaction (PCR) are indicated by bars and nucleotide numbers relative to the ATG translation initiation site are given in the table. Position of the transcriptional start site (TSS) is indicated by a arrow.

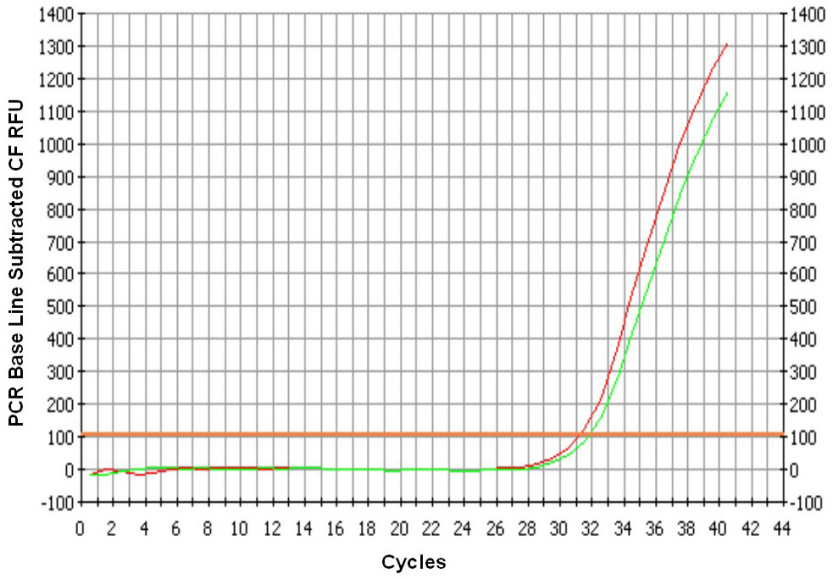

Figure 2.

DNA from mouse fibroblast 3T3 cells was analyzed in duplicate by real-time PCR starting from 5 µl of DNA template (0.03 µg/ml) using the Diagenode primers to amplify a region located about 300 bp upstream the mouse NANOG gene (cat#: pp-1019-050, -500). One µl of provided primer pairs is used by PCR of 25 µl final volume. A Real-Time PCR Detection System and iQ SYBR Green have been used. qPCR conditions used are as follows: 95°C for 3 minutes, 41 cycles of: [95°C for 60 seconds, 60°C for 60 seconds and 72°C for 90 seconds]. Duplicates are shown in red and green. Threshold position is in orange.

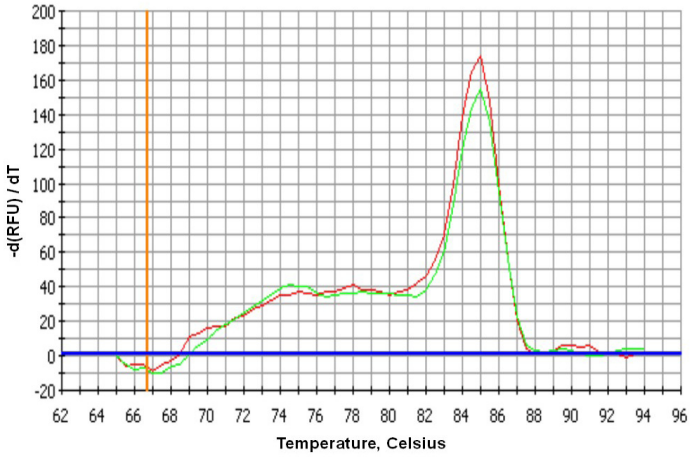

Figure 3
Melting curves obtained with primers cat#: pp-1019 (-050, -500) used in the above qPCR. Conditions were 60 cycles of 65°C for 1 minute and increment of 0.5°C per cycle. Duplicates are shown in red and green.

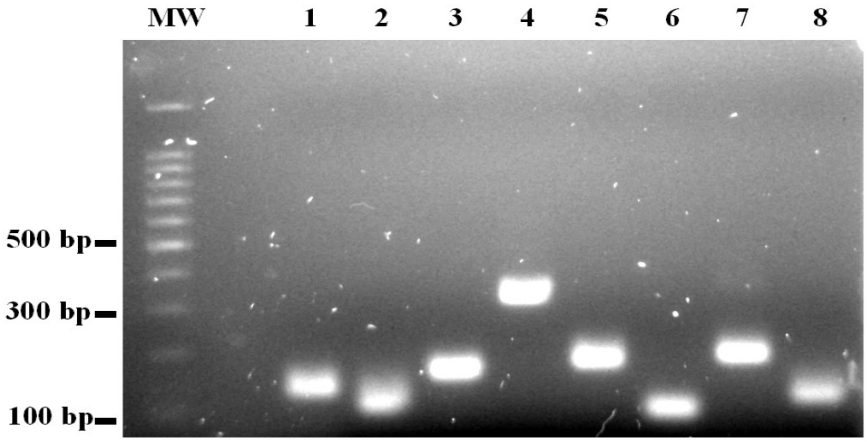

Figure 4
qPCR products were analysed by electrophoresis (1.5% agarose gel) stained with SYBR Safe and illuminated with UV light. The left lane shows molecular weight markers (MW) that decrease in size by 100 bp. Different qPCR products using different primer pairs which are available at Diagenode were tested: 1: primers for mouse NANOG/A (pp-1019-050, -500), 2: primers for mouse NANOG/B (pp-1020-050, -500), 3: primers for mouse NANOG/C (pp-1021-050, -500), 4: primers for mouse NANOG/E (pp-1023-050, -500), 5: primers for mouse NANOG/F (pp-1024-050, -500) and 6: primers for mouse NANOG/D (pp-1022-050, -500). Fore more details about other primers pairs, see data sheet.
Overview: Nanog homeobox is a transcription regulator involved in inner cell mass (ICM) and embryonic stem (ES) cells proliferation and self-renewal. Nanog imposes pluripotency on ES cells and prevents their differentiation towards extraembryonic endoderm and trophectoderm lineages [3].