diagenode
A Hologic Company

TECHNICAL DATASHEET

PRODUCT NAME Mouse OCT-4 exon 4 primer Pairs			
Official full name: POU domain, class 5, transcription factor 1 **Official symbol:** POU5F1 **Primary source:** MGI: 101893			
Cat. No: pp-1032-050	**Size:** 50 µl	**Concentration:** 10 µM	**Lot #:** 001
Cat. No: pp-1032-500	**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:# pp-1032 (-050, -500) is specific to the exon 4 region of the mouse OCT-4 gene [1]. 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 1, 2 and 3**). See overview below.

Expected PCR product size: 132 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] Buitrago W. and Roop Dr. (2007) J. Invest. Dermatol. 127 (2): 260-2.

Availability date: July 16, 2007

Last data sheet update: August 03, 2007

Lot #: 001/ day of the synthesis: May 25, 2007/ day of QC: July 26, 2007/ aliquoting day: July 31, 2007

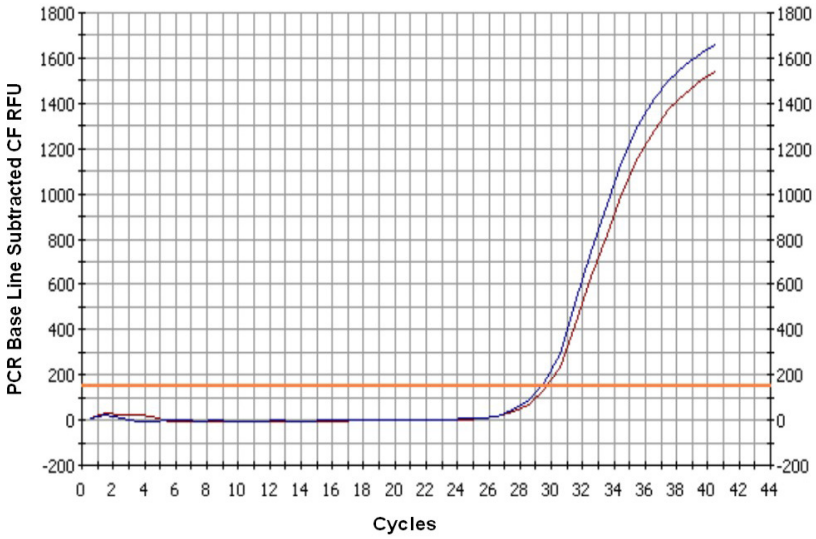

Figure 1

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 in the exon 4 of the mouse OCT-4 gene (cat#: pp-1032-050, -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 blue and brown. Threshold position is in orange.

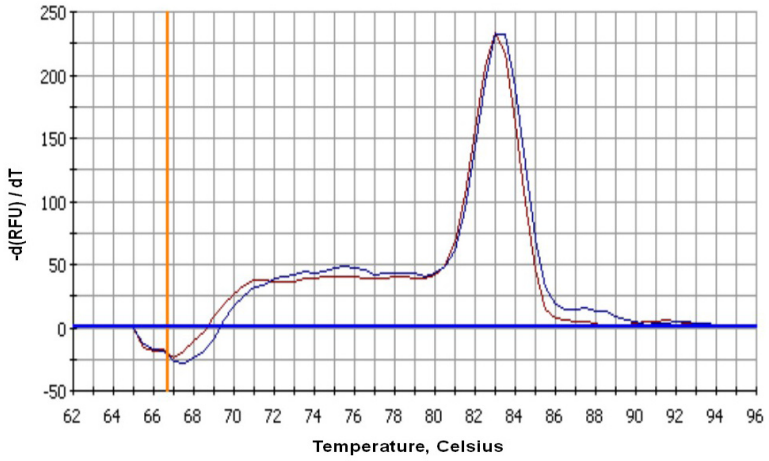

Figure 2.

Melting curves obtained with primers cat#: pp1032 (-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 blue and brown.

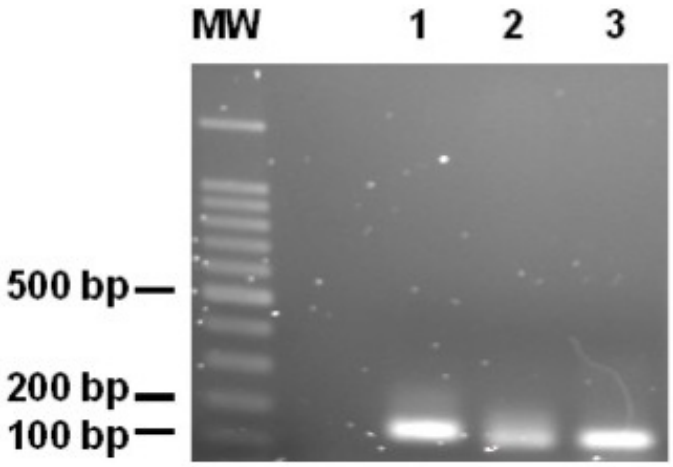

Figure 3

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 OCT-4 gene promoter (pp-1030-050, -500), 2: primers for a region of the exon 1 of the mouse OCT-4 gene (pp-1031-050, -500), 3: primers for a region of the exon 4 of the mouse OCT-4 gene (pp-1032-050, -500). For more details about other primer pairs, see data sheet.

Overview: OCT-4 is a POU domain transcription factor encoded by the Pou5f1 gene that is expressed in embryonic stem (ES) cells and germ cells. Its expression is required to sustain cell self-renewal and pluripotency [2].