diagenode
A Hologic Company

TECHNICAL DATASHEET

| PRODUCT NAME<br>Mouse Hhex coding primer Pairs | | | |
|---|---|---|---|
| **Official full name:** Hematopoietically expressed homeobox<br>**Other name:** Hex, Prh, Prhx, Hhex-rs2<br>**Primary source:** MGI: 96086 | | | |
| **Cat. No:** pp-1028-050 | **Size:** 50 µl | **Concentration:** 10 µM | **Lot #:** 001 |
| **Cat. No:** pp-1028-500 | **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-1028 (-050, -500) is specific to a DNA coding region in the mouse Hhex 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 and 2**). See overview below.

**Expected PCR product size:** 151 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] Guo Y., Chan R, Ramsey H., Li W., Xie X., Shelley W.C., Martinez-Barbera J.P., Bort B., Zaret K., Yoder M. and Hromas R. (2003) Blood 102 (7):2428-35

**Availability date:** September 03, 2007

**Last data sheet update:** September 14, 2007

**Lot #:** 001/ day of the synthesis: May 25, 2007/ day of QC: August 17, 2007/ aliquoting day: August 24, 2007

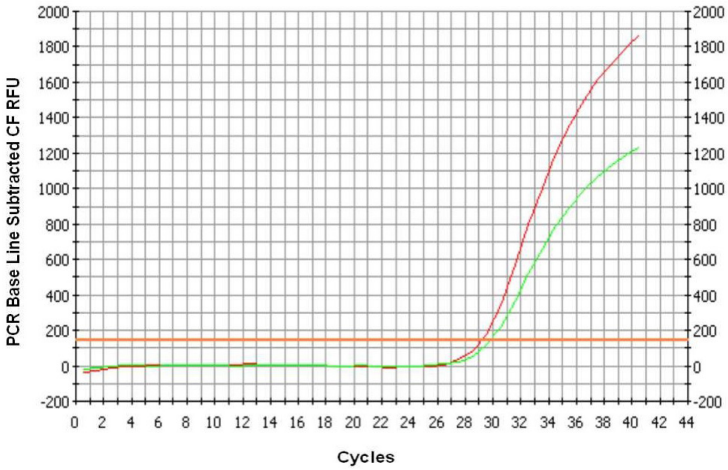


**Figure 1**

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 coding region in the mouse Hhex gene (cat#: pp-1028-050, -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.

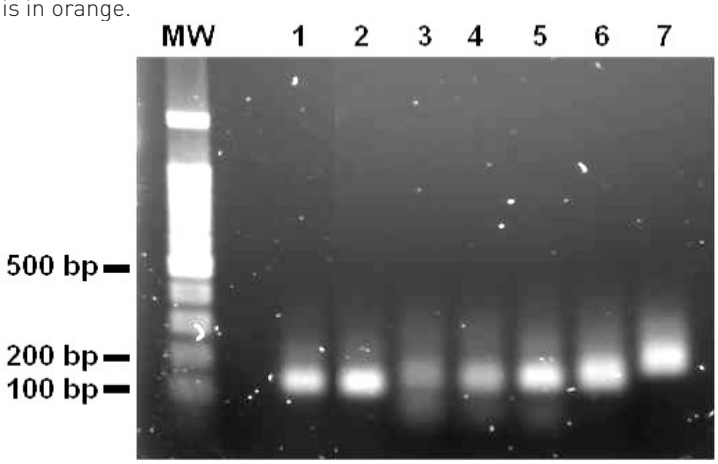


**Figure 2**

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 Cdx2 gene promoter (pp-1025-050, -500), 2: primers for mouse Hhex gene promoter (pp-1027-050, -500), 3: primers for a coding region of the mouse Hhex gene (pp-1028-050, -500), 4: primers for a 3' region of the mouse Hhex gene (pp-1029-050, -500), 5: primers for mouse Nkx2-5 gene promoter (pp-1033-050, -500), 6: primers for mouse Cfc1 gene promoter (pp-1035-050, -500), 7: primers for a coding region of the mouse Cfc1 gene (pp-1036-050, -500). For more details about other primer pairs, see data sheet.

**Overview:** In the adult, the Hhex gene is preferentially expressed in hematopoietic cells but it is generally down-regulated during terminal differentiation of hematopoietic cells. The lack of Hhex is detrimental to the differentiation of the hemangioblast to hematopoietic progenitors and to a lesser extent, to endothelial cells [2].