diagenode
A Hologic Company

TECHNICAL DATASHEET

PRODUCT NAME Human BMX Primer Pairs			
Official full name: non-receptor tyrosine kinase **Other name:** ETK, PSCTK2, PSCTK3 **Primary source:** HGNC: 1079			
Cat. No: pp-1039-050	**Size:** 50 µl	**Concentration:** 10 µM	**Lot #:** 001
Cat. No: pp-1039-500	**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-1039 (-050, -500) is specific to a DNA region in the human BMX gene. 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: 81 base pairs (bp).

Specificity: Human: 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] Qiu Y. and Kung H.J. (2000) Oncogene 19(49): 5651-61.

Availability date: September 10, 2007

Last data sheet update: September 14, 2007

Lot #: 001/ day of synthesis: May 25, 2007/ day of QC: September 06, 2007/ aliquoting day: September 07, 2007

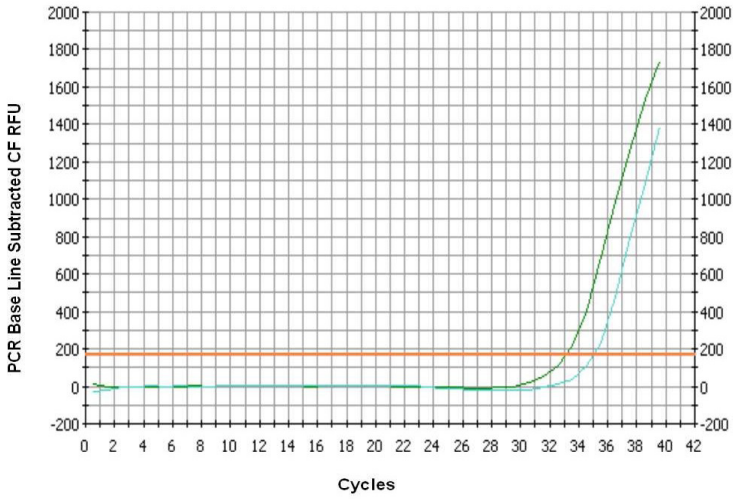

Figure 1

DNA from human cervical cancer HeLa cells was analyzed in duplicate by real-time PCR starting from 5 µl of DNA template (0.01µg/ml) using the Diagenode primers to amplify a region in the human BMX gene (cat#: pp-1039-050, -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, 40 cycles of: [95°C for 15 seconds, 60°C for 45 seconds] and 1 cycle of 95°C for 1 minute. Duplicates are shown in green and blue. Threshold position is in orange.

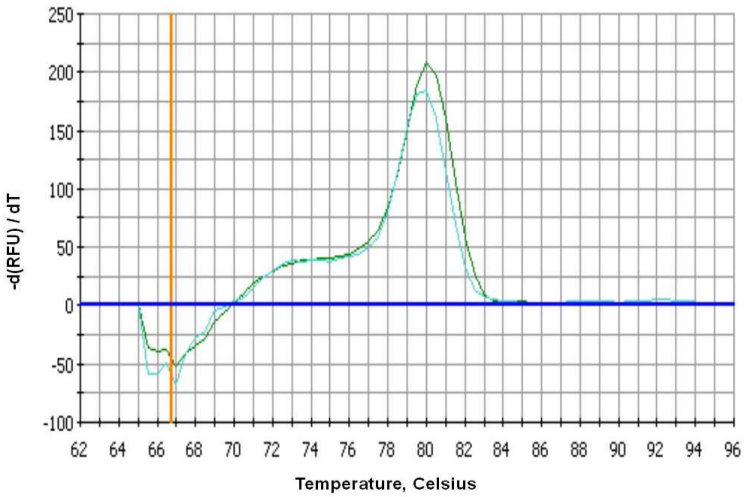

Figure 2

Melting curves obtained with the primers cat#: pp1039 (-50, -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 green and blue.

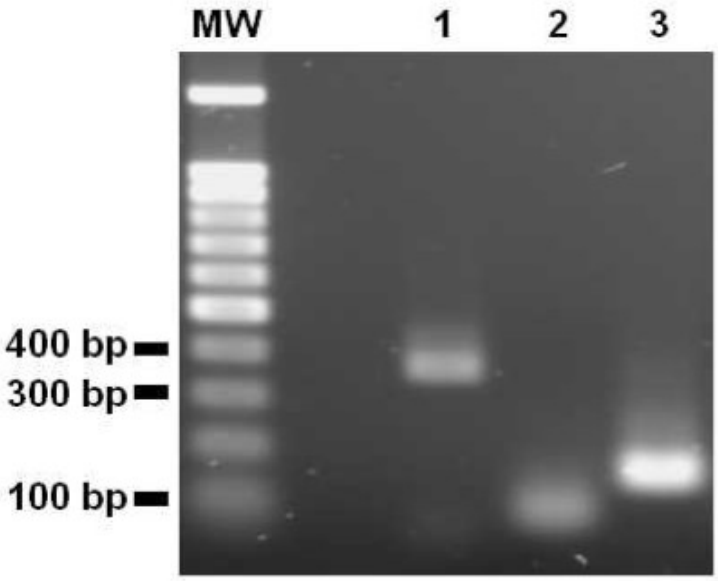

Figure 3
qPCR products were analysed by electrophoresis (1.5% agarose gel) stained with SYBR Safe and illuminated with UV light. The left lane shows molecular weight markers (MW) that decrease in size by 100 bp. Different qPCR products using different primer pairs which are available at Diagenode were tested: 1: primers for human MYT 1 gene promoter (cat#: pp-1037-050, -500), 2: primers for human BMX gene (cat#: pp-1039-050, -500), 3: primers for human SAT 2 gene (cat#: pp-1040-050 -500). For more details about other primer pairs, see data sheet.

Overview: The Btk family kinases represent new members of non-receptor tyrosine kinases, which include Btk/ Atk, Itk/ Emt/Tsk, Bmx/Etk, and Tec. They are characterized by having four structural modules: PH (pleckstrin homology) domain, SH3 (Src homology 3) domain, SH2 (Src homology 2) domain and kinase (Src homology 1) domain. Increasing evidence suggests that, like Src-family kinases, Btk family kinases play central but diverse modulatory roles in various cellular processes.They participate in signal transduction in response to virtually all types of extracellular stimuli which are transmitted by growth factor receptors, cytokine recep-tors, G-protein coupled receptors, antigen-receptors and integrins. They are regulated by many non-receptor tyrosine kinases such as Src, Jak, Syk and FAK family kinases. In turn, they regulate many of major signaling pathways including those of PI3K, PLCg and PKC [1]