www.cytogenes.com

Product Data Sheet
BCR-ABL Primer Mixes

Cat. #: BA-WT, BA-B2, BA-B3, BA-E1

BCR-ABL Clinical Relevance:

The BCR-ABL fusion results in constitutive ABL tyrosine kinase activity contributing to unregulated cell division. The BCR-ABL fusion is found in 95% of chronic myelogenous leukemia (CML), 25–30% adult acute lymphoblastic leukemia (ALL), and 2–10% child ALL. Researchers have identified the utility of measuring BCR-ABL transcripts to aid in the assessment of minimal residual disease (MRD) and the response to treatment. An international consortium has developed "International Standards" allowing the comparison of BCR-ABL levels measured by different quantitative PCR assays.[1,2,3]

CytoGenes offers primer mixes, standards, and controls allowing laboratories to detect the three most common BCR-ABL fusions by quantitative PCR (b2a2, b3a2, and e1a2). A set of standards normalized to the International Scale allows results to be reported on the International Scale.

Product Description:

Primer mixes utilize TaqMan quantitative PCR technology and require the use of a multi-color quantitative PCR instrument. Each primer mix contains a forward primer, reverse primer and TaqMan probe specific for the indicated target (See Product Specifications). TaqMan probes are labeled with a FAM reporter and BHQ quencher. Primer mixes are provided at a 25X concentration.

Primer sets are available to detect the three most common BCR-ABL fusions (b2a2, b3a2, and e1a2) as well as the endogenous ABL gene.

www.cytogenes.com

Product Specifications:

The table below indicates the primer binding sites for each of the PCR primer mixes. Forward and reverse primers are located in different exons to prevent false amplification of contaminating sample genomic DNA.

Cat #	Item	Primer Binding Sites		
		Forward Primer	TaqMan Probe	Reverse Primer
BA-WT	BCR-ABL Wt Primer Mix	ABL1; Exon 1	ABL1; Exon 2	ABL1; Exon 2
BA-B2	BCR-ABL b2a2 Primer Mix	BCR; exon 13	ABL1; Exon 2	ABL1; Exon 2
BA-B3	BCR-ABL b3a2 Primer Mix	BCR; exon 14	ABL1; Exon 2	ABL1; Exon 2
BA-E1	BCR-ABL e1a2 Primer Mix	BCR; exon 1	ABL1; Exon 2	ABL1; Exon 2

Volume: 45µl
Reactions: 50 (0.8µl/ reaction)

Procedure:

Researchers are advised to optimize the use of these primer mixes in any application. Prior to amplification, a reverse transcription step is required to convert RNA transcripts to suitable DNA templates. The components of the primer mix are suitable for a one-step reverse transcriptase/ Q-PCR reaction. Primers should be diluted appropriately into a suitable PCR master mix containing Reverse Transcriptase and Taq Polymerase. (Example: 0.8µl in a 20µl reaction)

Storage:

Store at -20°C. Once open store at 4°C. Repeated freezing/thaw cycles should be avoided.

References:

1. White HE, Matejtschuk P, Rigsby P, Gabert J, Lin F, Lynn Wang Y, Branford S, Müller MC, Beaufils N, Beillard E, Colomer D, Dvorakova D, Ehrencrona H, Goh HG, El Housni H, Jones D, Kairisto V, Kamel-Reid S, Kim DW, Langabeer S, Ma ES, Press RD, Romeo G, Wang L, Zoi K, Hughes T, Saglio G, Hochhaus A, Goldman JM, Metcalfe P, Cross NC. Establishment of the first World Health Organization International Genetic Reference Panel for quantitation of BCR-ABL mRNA. Blood. 2010 Nov 25;116(22):e111-7. Epub 2010 Aug 18.

2. WHO International Standard. 1st WHO International Genetic Reference Panel for quantitation of BCR-ABL translocation by RQ-PCR.

3. Hughes T, et al. Monitoring CML patients responding to treatment with tyrosine kinase inhibitors: Review and recommendations for harmonizing current methodology for detecting BCR-ABL transcripts and kinase domain mutations and for expressing results. Blood. 2006;108:28-37.