



## Frequency of BCR-ABL fusion transcript types in Srinagarind Hospital, Khon Kaen University, Thailand

Kanokon Chaicom<sup>1\*</sup>, Prajuab Chaimanee<sup>2</sup>, Pimjai Ananta<sup>2</sup>, Pinsuda Klangsang<sup>1</sup>, Boonpleng Palaeng<sup>1</sup> Saravoot Litthiyo<sup>1</sup>

<sup>1</sup>Departments of Medicine, <sup>2</sup>Molecular laboratory section Central laboratory Srinagarind Hospital, Khon Kaen University, Khon Kaen 40002, Thailand

**Background and objective:** Philadelphia chromosome is the chromosome originating from the reciprocal translocation between long arms of chromosome 9 and chromosome 22 t(9;22)(q34;q11), it present in 90 - 95% of patients with chronic myeloid leukemia. The aberration results from a reciprocal translocation are creating a BCR-ABL fusion gene. There are two major forms of the BCR-ABL fusion gene, involving ABL exon 2, but including different exons of BCR gene. The transcript b2a2 or b3a2 codes for a p210 protein. Other fusion gene leads to the expression of an e1a2 transcript, which codes for a p190 protein. Other less common fusion genes are b3a3 or b2a3 (p203) and e19a2 (p230). Its frequency varies in different populations but there are no data from Khon Kaen, Thailand. In this study we aimed to report the frequencies of BCR-ABL transcript types studied in Khon Kaen patients with chronic myeloid leukemia (CML).

**Methods:** Multiplex PCR for BCR-ABL were performed on 80 patients with CML attending the Hematology clinic Srinagarind hospital, Khon Kaen between January 2015-July 2016, to detect different types of BCR-ABL transcripts of the t (9;22).

**Results:** All patients examined were positive for some type of BCR/ABL rearrangement. The majority of the patients (96.25%) expressed one of the p210 BCR-ABL transcripts, b3a2 and b2a2 transcripts were detected in 61.25 % and 35.00 %, respectively; the both transcripts were not detected. The expression of an e1a2 transcript, which codes for a p190 protein showed 3.75 %. Co-expression of p210/p190 were not detected.

**Conclusions:** Multiplex PCR is useful and saves time in the detection of BCR-ABL transcript types. The frequencies of one or other rearrangement in chronic myeloid leukemia patients vary in different reports.

**Keywords:** chronic myeloid leukemia; multiplex PCR



\* Corresponding author: Kanokon Chaicom, Departments of Medicine, Khon Kaen University, Khon Kaen 40002, Thailand

E-mail: [chaicom.kanok@gmail.com](mailto:chaicom.kanok@gmail.com)