

ABSTRACT

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Study Program : Biomedicine (Specialization in Tumor Biology)
Title : Detection of *MLH1* Methylation in Glioma using Methylation-Sensitive High Resolution Melting (MS-HRM)
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Loss of expression of *MLH1* gene has been associated with disruption on mismatch repair (MMR) mechanism. Defect in this mechanism is tightly correlated with the tumorigenesis of several types of cancer. Hypermethylation of *MLH1* gene promoter is one of the cause in lack of expression of *MLH1* protein. This mechanism is suspected to be involved in gliomagenesis, just like how it is known in colorectal cancer development. Unfortunately, study on hypermethylation status of *MLH1* gene promoter in glioma is very limited, especially in Indonesia. Methylation-sensitive high resolution melting (MS-HRM) PCR based procedure is used to evaluate methylation status of *MLH1* gene from glioma. This study found hypermethylation of the *MLH1* promoter in 33% of glioma samples from Indonesia. From the finding, only 1 out of 4 methylated *MLH1* promoters showed loss of expression of the *MLH1* protein.