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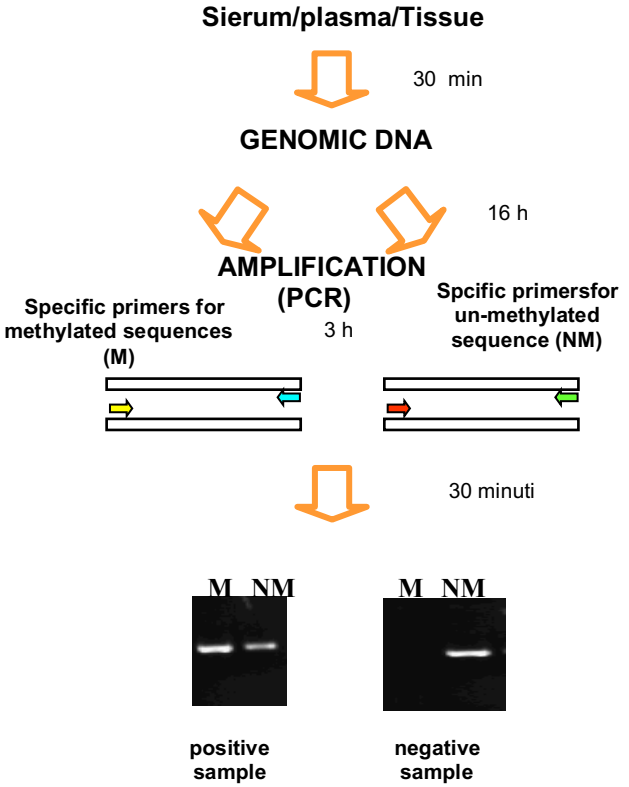
CE

DETECTION PF METHYLATION STATUS OF THE PROMOTER OF hMLH1 GENE

AMPLI-SET-hMLH1 Cat. n. 1.420

The methylation of the residues of cytosine in the "CpG islands" is very important for the regulation of the genic expression. The hypermethylation of the "CpG islands" in the pro- moter region of a gene suppresses the transcription of the same gene. In many tumors it has been demonstrated the hypermethylation of the promoter of the suppressor genes, as p16, p15, E-cadherine and other genes as "DAP-kinase", inhibitor gene of the metastatic pro- gression , 06-methyilguanine DNA methyltransferase (MGMT), gene involved in the repair of DNA and Glutatione-S-transferasi (GSPT1) etc. Plasma and serum of patients carriers of malignant neoplasia contains much genomic DNA than the control subjects. The principle of the assay is the extraction of genomic DNA from plasma or serum, the treatment with bisulfite sodium in order to transform the unmethylated residue of cytosine in uracil, the PCR amplification with specific oligonucleotides for the methylated and unmethylated sequences (MSP:methylation specific PCR) followed by detection on aga- rose gel. The assessment of the state of hypermethylation of a gene is an appreciable marker of the risk, and allows a precocious diagnosis and a prognosis of a neoplastic diseases. The kit allows the detection of the methylation of the promoter of the hMLH1 gene.

PRINCIPLE OF METHOD



1)Sanchez-Cespedes M. et al Cancer Res 60, 892-895 (2000)
2)Herman J. G. et al Proc. Natl. Acad. Sci. USA 95, 6870-6875 (1998)
3)Esteller M. et al Oncogene 16, 2413-2417 (1998)
4)Esteller M. et al Cancer Res 59, 67-70 (1999)
5)Esteller M. et al Cancer Res 59, 793-797 (1999)
6)Leon S. A. et al. Cancer Res 37, 646-650 (1977)
7)Stroun M. et al Oncology 46, 318-322 (1989)
8)Shapiro B. et al Cancer 51, 2116-2120 (1983)
9)Wong I. H. N. et al Cancer Res 59, 71-73 (1999)
10)Baylin S. B. Adv. Cancer Res. 72, 141-196 (1998)
11)Belinsky S. A. Proc. Natl. Acad. Sci. USA 95, 11891-11896 (1998)
12) Int J Cancer: 102, 623-628 (2002).