

# LOH analysis on 4q in sporadic colorectal carcinoma

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Thirteen fluorescent labeled polymorphic microsatellite markers were analyzed in 83 cases of colorectal carcinoma and matched normal tissue DNA by polymerase chain reaction (PCR). PCR products were electrophoresed on an ABI 377 DNA sequencer. Genescan 3.7 and Genotype 3.7 software were used for loss of heterozygosity (LOH) scanning and analysis.

Compared with clinicopathological features, significant relationship was observed between LOH frequencies on D4S3018 locus. In tumor larger than 5 cm in diameter, LOH frequency was significantly higher than that less than 5 cm (56% vs 13.79%,  $P = 0.01$ ). On D4S1534 locus, LOH was significantly associated with liver metastasis (80% vs 17.25%,  $P = 0.012$ ).

A research article to be published on September 28, 2008 in the *World Journal of Gastroenterology* addresses this question. The research team led by Prof. Zheng from Department of Abdomen Surgery Department, the Affiliated Yantai Yuhuangding Hospital of Qingdao University Medical College, expressed that tumor suppressor genes may exist on 4q in sporadic colorectal carcinoma.

The classic mechanism of tumor suppressor gene (TSG) inactivation is described by two-hit modes in which one allele is mutated (or promoter hypermethylation or a small intragenic deletion) and the other allele is lost through a number of possible mechanisms, resulting in LOH at multiple loci. LOH is the most common molecular genetic alteration

observed in human cancers. A great deal of evidence supported the presence of TSGs in the short arm of chromosome 4. Much less studies have been reported in colorectal cancer. By deletion dense markers mapping, they detected two obvious high frequency LOH regions (4q12-21.1 and 4q25-31.1). PTPN13 (4q21.3), Caspase3 (4q34) and caspase6 (4q24-35), T1A12/mac25 (4q12-13) genes are putative TSGs.

This is a report that describes the LOH events on 4q in sporadic CRC in Chinese patients, further studies will benefit from this paper. The data presented is clear and concise in the text.

Reference: Jiang LX, Xu J, Wang ZW, Li DP, Peng ZH, Gao JJ, He L, Zheng HT. Tumor suppress genes screening analysis on 4q in sporadic colorectal carcinoma. World J Gastroenterol 2008; 14(36): 5606-5611  
[www.wjgnet.com/1007-9327/14/5606.asp](http://www.wjgnet.com/1007-9327/14/5606.asp)

Source: World Journal of Gastroenterology

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