

The Differential DNA Methylation in Genomic DNA from Tissues: Approach of Genomic Imprinting Genes Isolation.

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ABSTRACT

DNA methylation is one of the mechanisms of gene regulation and has broadly been found in cell tested, both of the prokaryotes or eukaryotes. This DNA methylation is also the only marker which reflects genomic imprinting, genes expressed from only one allele inherited from parent. These genes express in certain tissues and developmental stages. It was estimated that there are 100 to 200 imprinting genes in whole human genome. However, only around 40 of them have been found. We take the advantages of those characters mentioned before and try to isolate de novo imprinting genes by combination of characters mentioned. Methods include digested genomic DNA from tissues with methylation-sensitive restriction enzyme and the digested DNA subjected to arbitrary primed PCR. Our preliminary data showed that through these methods we could isolate some distinguish bands, termed AP101、AP102、AP103、AP104、AP105、AP201、AP301、AP501 and AP801 from mice cortex. The differential methylation and genes expression will be confirmed by Southern hybridization and RT-PCR.

Keywords : DNA Methylation ; Genomic Imprinting ; Genomic DNA ; Arbitrary Primed PCR

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