

Suppression Subtractive Hybridization Technique for Identification of the Differentially Expressed Genes

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Abstract : Suppression subtractive hybridization (SSH) method is valuable tool for identifying differentially regulated genes in disease specific or tissue specific genes important for cellular growth and differentiation. It is a widely used method for separating DNA molecules that distinguish two closely related DNA samples. SSH is one of the most powerful and popular methods for generating subtracted cDNA or genomic DNA libraries. It is based primarily on a suppression polymerase chain reaction (PCR) technique and combines normalization and subtraction in a solitary procedure. The normalization step equalizes the abundance of DNA fragments within the target population, and the subtraction step excludes sequences that are common to the populations being compared. This dramatically increases the probability of obtaining low-abundance differentially expressed cDNAs or genomic DNA fragments and simplifies analysis of the subtracted library. SSH technique is applicable to many comparative and functional genetic studies for the identification of disease, developmental, tissue specific, or other differentially expressed genes, as well as for the recovery of genomic DNA fragments distinguishing the samples under comparison.

Keywords : suppression subtractive hybridization, differentially expressed genes, disease specific genes, tissue specific genes

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