


Genomic Marker For Ovarian Cancer Diagnostic

Reference: VAL-676-CHUM

Keywords: Epithelial Ovarian Cancer (EOC), Diagnostic of EOC, IL-18, FGF-2, CA125

Background



Epithelial ovarian cancer (EOC) is the fifth leading cause of cancer-related death among women and represents the most lethal gynaecological cancer. Unfortunately, more than 70% of EOC affected patients are diagnosed at an advanced stage, once cancer has already spread to secondary sites. Currently, there is no reliable method used for CEO early-stage diagnostic. CA125 serum marker is widely used for detection purpose however it's specificity is very poor and diagnostic needs to be confirmed with different analysis (transvaginal sonography, 3D ultrasound, power Doppler). The identification of markers that increase detection specificity of CEO at early-stage would then be of great interest in order to increase survival rate of CEO patients.

Technology

This technology is related to IL-18 and FGF-2 genes which increase detection specificity of CEO when they are used in combination with CA125.

Results

A DNA microarray analysis was completed using 39 EOC samples and 11 normal samples allowing the identification of genes differentially expressed. IL-18 and FGF-2 candidates genes were identified in that screen and their expression profiles were further validated by RT-qPCR and IHC analysis using 70 EOC samples and 20 normal samples. As demonstrated by ELISA analysis of 47 EOC serum

samples and 25 normal serum samples, protein level of IL-18 and FGF-2 were increased in EOC patient serum. A combination of IL-18 and FGF-2 with CA125 significantly improved the specificity of detection (20/25 patients) compared to each marker individually (CA125 15/25; FGF-2 18/25; IL-18 16/25).

Applications

- Diagnostic kit for EOC

Competitive Advantages

- Fulfill unmet needs of EOC treatment
- Simple detection method (serum, ELISA)
- Lowers healthcare costs

Patent Status

US, CA and EP pending applications (Q3/2006)

Business Opportunity

Univalor is seeking partners for a licence agreement or contract.

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