

5<sup>th</sup> World Congress on

# EPIGENETICS AND CHROMOSOME

November 15-16, 2018 Istanbul, Turkey

## Epigenetic alterations effect epithelial mesenchymal transition in non-small cell lung cancer

Gülay Bulut and Emine Kandemiş  
Bahçeşehir University, Turkey

Lung cancer is one of the most common cancer types in the world. The two main subtypes of lung cancer are small cell and Non-Small Cell Lung Cancers (NSCLC). NSCLC accounts for 85-90% of lung cancer. Carcinogenesis is a multiple process including loss of cell-cell adhesion, extracellular matrix invasion, etc. These alterations affect the tumor tissue and tumor cell phenotype. Epithelial-Mesenchymal Transition (EMT) is a common process for NSCLC, which is characterized by dramatic changes in epithelial cells. During EMT, expression levels of many transcription factors such as, Snail, Slug, ZEB1/2, Twist, E-cadherin, vimentin are affected. There are several genes that can be modified by epigenetic alterations during NSCLC. Epigenetic regulation can activate or repress gene expression and these dramatic changes affect EMT process of NSCLC. For example, histone acetylation activates SMAD2/3 gene, histone H3K27 methylation represses E-cadherin and some miRNAs, which are involved during the EMT process. Also histone H3K9 and H3K27 deacetylation repress E-cadherin gene expression. These studies showed that epigenetic regulations are very important for EMT in NSCLC. Especially, EMT changes cell phenotype and induces cell migration and invasion. Based on these data, determining epigenetic alterations during EMT can be a new target for therapy.

### Biography

Gülay Bulut has completed her Undergraduate study at Dokuz Eylül University, Department of Biomedical Sciences and had her Master's and PhD Degrees at Dokuz Eylül University, Department of Medical Biology and Genetics. She had her Post-doctoral training at Lombardi Comprehensive Cancer Center, Georgetown University (2006-2012). He is currently a faculty member at Bahçeşehir University (Istanbul, Turkey), Department of Molecular Biology and Genetics since 2012. His research is mainly on identification of novel protein-protein interactions in cellular signaling pathways and development of small molecule inhibitors targeting these protein interactions.

gulay.bulut@bahcesehir.edu.tr

Notes: