

Structural Basis of Tumor Suppressor in Lung Cancer 1 (TSLC1) Binding to Differentially Expressed in Adenocarcinoma of the Lung (DAL-1/4.1B)

Bjorn Martin HALLBERG

Karolinska Institute, Stockholm, Sweden

Perturbed cell adhesion mechanisms are crucial for tumor invasion and metastasis. A cell adhesion protein, TSLC1 (tumor suppressor in lung cancer 1), is inactivated in a majority of metastatic cancers. DAL-1 (differentially expressed in adenocarcinoma of the lung protein), another tumor suppressor, binds through its FERM domain to the TSLC1 C-terminal, 4.1 glycoprotein C-like, cytoplasmic domain. I will talk about the crystal structure of a complex between the DAL-1 FERM domain and a portion of the TSLC1 cytoplasmic domain. In the structure, DAL-1 binds to TSLC1 through conserved residues in a well defined hydrophobic pocket in the structural C-lobe of the DAL-1 FERM domain. This refutes and contrasts much of the earlier work that has been based on the assumption that glycoprotein C family members interact with the α -lobe of 4.1 FERM domains.