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Poster Presentation Certificate

An Investigation On The Mesothelin Characteristics
For Immunotoxin Development

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An Investigation On The Mesothelin Characteristics For Immunotoxin Development

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Abstract

Cell surface antigens are critical markers for diagnostic and healing of many diseases such as cancer. In this regard, mesothelin as specific antigen, with low expression on the normal cells and over-expression on the surface of mesothelioma, is suitable candidate for developing approaches of therapeutic and diagnostic of cancer. Bearing in mind, the structural and functional characterization as well as the expressing cells of the antigen was considered in this study for immunotoxin development. Accordingly, the protein sequence of the mesothelin with the accession number ALC62084 were retrieved from NCBI database. PROTEINATLAS were used for assessment the expression of the antigen. On the other hand, corresponding specific ligands of this antigen were detected via STRING program. Structural modeling and quality assessment of the models were carried out by MODELLER and RAMPAGE programs, respectively. Moreover, topology features of the antigen were determined by Mpex program. All data were expressed as mean_ standard deviation with SPSS 21.0 (SPSS Inc., Chicago, IL, USA). Topology feature of the antigen showed that the C terminal of the mesothelin is situating on the extracellular with one transmembrane region. Moreover, various expression of the antigen were appeared on the surface of the mesothelial cells. However, the highest expression of this antigen was determined on the surface of ovarian cancer cells. Furthermore, 3D structure of the antigen showed 98% similarity with appropriate in quality. Meanwhile, MUC19, WFDC2, WNT5A, NDUFB5, NDUFB9, MPV17, RALA, LAMTOR3, ZBTB43, RNMTL1, HN1 and MOR Ab-009 propounded as corresponding ligands of the antigen with different affinity. In general, the results of this study provide the context for immunotoxins development with the capacity to targeting mesothelin on the cell surface of the malignancies.

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