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### Poster Presentation Certificate

Designing And In-Silico Evaluation A Novel  
Immunotoxin For Renal Malignancies

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# Designing And In-Silico Evaluation A Novel Immunotoxin For Renal Malignancies

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## Abstract

The prevalence of cancer, lead to special attention to the developing new diagnostic and therapeutic approaches. Among all different ways, immunotoxin therapy is known as a promising strategy for targeting cancerous cells. Accordingly, designing, optimization and simulation a new immunotoxin with the ability to targeting renal malignancies have been considered in this study. Whereas, a profile of cell surface specific antigens of renal malignancies was gathered in order to select the target. To fulfill this aim, Proteinatlas database were used for our in-silico expression assays. Likewise, ligands of the selected antigens were detected via STRING program, and then evaluated based on scoring and molecular docking. On the other hand, a comparative analysis on the effective dosage of toxins was accomplished for selection toxin fragments. Moreover, Modeller, GROMACS, MOE, ERRAT, PROCHECK and Verify-3D programs were used for modeling, quality control of the structure as well as structural simulation. Bear in mind, all statistical analysis were expressed with SPSS 21.0 software (SPSS Inc., Chicago, IL, USA). The results of this study demonstrate the high expression of EGFR on the renal malignancies' cell surface. Whilst, Cetuximab was chosen as the best coordinate ligand of the selected antigen. Furthermore, pseudomonas exotoxin A selected due to the fact of its high efficiency. Finally, the assembling of the selected domains with flexible liker led to design a new immunotoxin, with high stability and functionality after simulation, for targeting renal cancer cells. Nonetheless, the supplementary analysis for confirming the effects of this immunotoxin is ongoing in our group.

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