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A new combination therapy strategy for cervical cancer therapy

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Cervical cancer is the fourth most common cancer affecting women and the second most common cause of cancer deaths in women worldwide. Different strategies have been used in the treatment of cervical cancer. Since Human Papilloma Virus (HPV) is the cause of nearly all cases of cervical cancers. Vaccines that provide HPV oncoproteins to stimulate immune system have been developed. E6 and E7 through interaction with p53 and Retinoblastoma protein (Rb) respectively, as major oncoproteins of HPV, have been used in therapeutic vaccines and led to increasing of T cells infiltration in the tumor site and CTL activation against E6 and E7. On the other hand, one of the cell surface tyrosine kinase receptors which overexpresses in the cervical cancer cells is an Oncostatin M receptor (OSMR). Signal transduction of OSMR *via* STAT3 leads to an increase in the expression of its target genes, Vascular Endothelial Growth Factor (VEGF) and Transglutaminase 2 (TGM2). VEGF is the most important angiogenesis stimulator which increase oxygen and nutrients delivery to tumor cells. In addition, TGM2 interacts with integrin-α5β1, acting as a co-receptor of fibronectin and result in cell migration and invasion, because cancer is a complex, combination therapy can be effective strategy in the treatment. Combining the E6/E7 providing vaccine with OSMR inhibitor could increase immunity against tumor cells and reduce angiogenesis and metastasis.

Biography

Nasser Hashemi Goradel is currently a PhD student of Medical Biotechnology in Tehran University of Medical Sciences and works on DNA vaccine for cervical cancer therapy. He has published 5 papers in cancer angiogenesis and angiogenesis inhibition.

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