

Global Peptide Cancer Vaccine Market & Clinical Pipeline Insight

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Abstracts

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With the ever increasing new cancer cases across the globe and the conventional treatment methods unable to cope up with the challenges posed by the tumor and their immune response evading techniques, cancer immunotherapy brings a ray of hope. Cancer immunotherapy allows the host's immune cells to get sensitized with the tumor-associated antigens which in turn elicits B cell and T cell mediated immune response to target and eliminate tumor cells. This is the underlying principle of cancer immunotherapy.

Among different forms of cancer immunotherapy which includes monoclonal antibody based immunotherapy, antibody-drug conjugates, dendritic cell cancer vaccines and others, peptide cancer vaccine holds a special position due to its various inherent advantages associated with its mechanism of action, its manufacturing process and its user friendly compliance. This could be supported with the fact that the first cancer vaccine successfully launched in the market was provenge, a prostate cancer vaccine.

The market trends of peptide cancer vaccines are on a higher curve, thanks to so many favorable parameters associated with peptides. Peptide cancer vaccines are based on active immunotherapy which makes them more potent as the antibodies present in the body after the administration of the vaccine are already sensitized and are ready for their anti-tumor action. The response is permanent which lasts almost throughout the lifetime of the patient. Moreover, peptides are highly specific in their function which allows for the formulation of personalized cancer vaccine. As the tumor-associated antigens are protein sequence, they can be investigated and incorporated for the development of cancer vaccine based on that specific protein sequence to target only

the tumor cells, avoiding the healthy cells hence reduced risk of toxicity.

With the development of next generation peptide cancer vaccines namely multivalent long peptides, peptide cocktail vaccines, hybrid peptide vaccines, personalized peptide vaccines and peptide-pulsed dendritic cell cancer vaccines among others, several challenges associated with the cancer immunotherapy will be addressed. The major hurdles for peptide cancer vaccines is the lack of standardized clinical trials success related parameters which has resulted in many clinical trials failures in the recent times. In addition to this, cancer cells are known to evade immune response by modulating the immune system, inducing immune-tolerance and initiating cancer-immunoediting.

What so ever be the challenges, the future of peptide cancer vaccine is extremely bright as it offers novel solutions to so many unanswered questions in cancer immunotherapy. As the knowledge of antigen, its action on the key components of the immune system is further understood, the efficacy of peptide vaccine will definitely increase. Until then, the best way forward for peptide cancer vaccine is to use multivalent long peptide sequence which is able to break immunotolerance and offer wide therapeutic action. Meanwhile investigators need to bring forward new clinical trials study parameters in line with the cancer vaccine program. For the patients at their advanced stage of cancer, the combinational therapy using conventional methods like chemotherapy, surgery needs to be undertaken along with immunotherapy for effective anti-cancer therapeutics.

“Global Peptide Cancer Vaccine Market & Clinical Pipeline Insight” Report Highlights:

Introduction to Peptide cancer Vaccine

Mechanism of Action of Peptide Cancer Vaccine

Need of Peptide Cancer Vaccines

Clinical Trials Efficacy Study of Synthetic Peptide Analog Obtained From WT1 Oncoprotein

Wide Spectrum Action of Peptide Cancer Vaccines against Major Cancer

Global Peptide Cancer Vaccine Pipeline: 41 Vaccines

Global Peptide Cancer Vaccine Clinical Pipeline by Company, Indication & Phase

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