Gene-Directed Enzyme Pro-drug Therapy: A Promising Way for Cancer Treatment

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Introduction

Gene-directed protein prodrug medical aid (GDEPT) may be a promising strategy that aims to limit the general toxicity associated degree improve the property of therapy use through the expression of a factor that encodes associate degree catalyst that converts nontoxic prodrug into an activated cytotoxic agent. It offers a brand new approach to treating some cancers. Clinical trials are completed for brain and prostate cancers and also the initial product for post-surgical treatment of some brain tumors is awaiting selling approval. Recent innovations offer a glimpse into the double future evolution of a brand new cisreton medication [1].

GDEPT could be a two-step cisreton medical aid approach wherever the cisreton for a non-endogenous catalyst is directed to focus on tissues. First one is a factor of a far off catalyst is delivered to a tumour by a vector and second one is a prodrug is then administered that is property activated within the tumour site. Within the initiative, the cisreton for a distant catalyst is run and is directed to the neoplasm, wherever it’s expressed by the utilization of specific promoters. Within the second step, injected prodrugs area unit activated by the foreign catalyst. The planning and synthesis of prodrugs able to bear protein activation in such systems is a vital part [2]. The catalyst is expressed intracellularly wherever it’s able to activate an afterwards administered prodrug. It’s a promising new treatment for cancer therapy. The planning and synthesis of prodrugs able to bear animate thing enzymic activation by foreign genes in such systems is a vital part [3]. The implementation of a prodrug strategy has associate degree improvement within the chemical science and pharmacokinetic properties over the pharmacologically active compounds. The foremost wide used enzyme/prodrug mixtures in GDEPT that are investigated for applications in cancer medical care embrace herpes simplex virus thymidine kinase enzyme with ganciclovir, and pyrimidine deaminase, the microorganism catalyst carboxypeptidase G2 and E. coli nitroreductase, that activates the prodrug CB1954. Synergies between totally different GDEPTs and alternative modalities area unit required to be explored to attain complete cure for this difficult sickness. Synergies between totally different GDEPTs and different modalities area unit to be explored for increasing therapeutic profit with a negligible toxicity [4].

Finally, the approaches ought to be thought of for testing so as to attain complete cure for this difficult sickness. Synergies between totally different GDEPTs and different modalities allow us to be explored for increasing therapeutic profit with a negligible toxicity [4].

References


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