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Method of Delivering a Medicament to Cancer Cells Using a Plasminogen Activator Material

Targeted anticancer therapy utilizes the localization ability of an antibody to deliver a therapeutic compound to the tumor. Another approach to targeted anticancer therapy is the attachment of drugs or toxins to ligands that would secure tumor localization and internalization of such complexes. The most important consideration in the selection of antigens used as a target in anticancer therapy is the selection of the cancer specific antigen common for most of the cancers. The most notable property of cancer is its ability to invade and metastasize. In a number of different tumor models, as well as in tissues derived from human malignancies, a direct correlation has been found between levels of urokinase plasminogen activator activity and/or concentration and the metastatic potential of cancer cells. It has also been found that the urokinase plasminogen activator is over expressed on the surface of cancer cells when compared with their normal noncancerous counterparts or normal physiological levels of this enzyme. Thus, making it a good target in anticancer therapy. Therefore, a method has been developed using the pathway of plasminogen activator inhibitor material to deliver a medicament or cytotoxic compound to the cancer cell and thereafter internalizing the compound into the cancer cell.

The University of Toledo is seeking a company interested in utilizing this novel method of using an active plasminogen activator material to selectively deliver anticancer medicaments into tumor cells

Applications:

1. Delivering a medicament or cytotoxic compound to the surface of cancer cells
2. Method of transferring the medicament or cytotoxic compound into cancer cells

Advantages:

1. Medicament coupled to activated plasminogen activator material
2. Conjugated medicament prevents the conversion of the plasminogen activator inhibitor material into its latent inactive form
3. Medicament is coupled in such a way that it does not interfere with active sites responsible for internalization

This invention is protected by issued patent: 5,679,350

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