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Carbohydrate-mediated Tumor Targeting

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Inventors

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Invention Description

The bleomycins (BLMs) are well-known antineoplastic agents. They are particularly useful in the treatment of squamous cell carcinomas and malignant lymphomas.

The therapeutic effect of bleomycin analogues is believed to result from their selective oxidative cleavage of DNA and possibly RNA. Much of the site-specific cleavage is thought to be effected by the N-terminal metal-binding domain, the C-terminal bithiazole region, and the linker domain. The least understood structural domain of BLM is the disaccharide moiety.

Researchers at the Biodesign Institute of Arizona State University have discovered that the carbohydrate moiety of BLM, by itself, is sufficient for tumor cell targeting. Numerous highly specific analogues of this region have been produced and tested for tumor imaging and the development of novel, targeted chemotherapeutics.

Potential Applications

- Reagents for tumor imaging
- Novel cancer chemotherapeutics

Benefits and Advantages

- Tumor cells can be specifically imaged and targeted for chemotherapeutic destruction.

Intellectual Property Status:

Patent Pending

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