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(54) Title: RNA PHOTOCLEAVAGE USING TEXAPHYRINS

(57) Abstract

Methods for photocleavage of a polymer of ribonucleic acid using a photosensitive texaphyrin are provided. A preferred method of use is the site-specific photocleavage of a polymer of ribonucleic acid and a preferred photosensitive texaphyrin is a derivatized texaphyrin having binding specificity, in particular, a texaphyrin covalently coupled to a site-directing molecule, preferably an oligonucleotide. Possible substrates for photocleavage include messenger, ribosomal, transfer, small nuclear, and small cytosolic ribonucleic acids, and ribonucleic acid cofactors, thereby inactivating these ribonucleic acids and providing a multifaceted approach for treating benign or malignant cancer cells, or other undesired cells or tissues.

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