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## Integrin targeted RNAi and macromolecule therapeutics for treatment of cancers and invasive fungal infections

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E fforts to develop tissue-targeted therapeutics have made clinical advances through antibody conjugates and nanoparticles, with primary successful clinical applications for treatment of cancers. Advances are based on a growing understanding that systemic targeted therapy depends upon reduction of non-specific interactions, most commonly accomplished with nanoparticles by PEGylation. A large number of preclinical studies suggest that ligand-targeted nanoparticles can permit tissue-specific intracellular delivery of RNAi or gene therapy agents. A portfolio of therapeutics that utilize integrin targeting to neovasculature, associated with a wide range of tumor types as well as sites of infection is developed. A portfolio of integrin targeted nanoparticle therapeutics is being developed for treatment of cancers that utilize RNAi and gene therapy agents that have a potential for multiple mechanisms of action, and are expected to be complementary with existing chemotherapy and targeted therapy inhibitors of proteins. A line of integrin targeted therapeutics is being developed for treatment of life threatening invasive fungal infections that utilize a novel branched histidine rich polyamide macromolecule class of antimicrobials. The development of these integrin targeted therapeutics will be described along with consideration of challenges to successful clinical translation.

## Biography

Martin C Woodle has over 25 years experience in pharmaceutical research, following his PhD at Northwestern University and Postdoctoral studies at Rockefeller University. He is an inventor of the PEGylated liposome system used in Doxil, one of the first successful nanoparticle therapeutics and a development that has provided an essential foundation for the field of targeted nanoparticle therapeutics. He is one of the founders of Aparna Biosciences, a leading tissue targeting therapeutic research and development organization. He has published more than 35 scientific papers in reputed journals.

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