

Stem Cell Research 2017 : Nano-diamino-tetrac (NDAT ; Nanotetrac) acts at its target on integrin $\alpha v \beta 3$ in human glioblastoma xenografts to induce necrosis via. anti-angiogenesis and apoptosis_ Paul J Davis_ Albany College of Pharmacy and Health Sciences, USA

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Abstract

A bimodal pattern of hazard of Clinical evidence in a limited number of patients supports the concept that glioblastoma multiforme (GBM) is a thyroid hormone-dependent cancer. In vitro evidence indicates that Lthyroxine (T4), the principal secretory product of the thyroid gland, at physiological concentrations stimulates proliferation of glioma /GBM cancer cells via a poly-functional cell surface receptor for T4 on the extracellular domain of cancer cell plasma membrane integrin $\alpha v \beta 3$. This action of T4 is blocked by nanoparticulate tetraiodothyroacetic acid (Nanotetrac, Nanodiamino-tetrac, NDAT). Tetrac in this NDAT formulation is covalently bound via a diaminopropane linker to a poly(lactico-glycolic acid) (PLGA) nanoparticle. We have examined histopathologically the induction by NDAT of devascularization, of necrosis and apoptosis in U87MG human GBM cell xenografts in nude mice. Treatment regimen was 1 mg tetrac equivalent/kg body weight s.c. as NDAT daily X10 d, begun 2 d following tumor cell implantation when tumor volume estimates were 350 mm³.

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Biography

Lia Monica Junie, from the Microbiology Department of "Iuliu Hatieganu" University of Medicine and Pharmacy, Cluj-Napoca, Romania. She is coordinating PhD doctor's thesis in the medicine field. She unfolds a fruitful National and International scientific activity as an experienced microbiologist, having an impressive CV. She is Member in the Board of Scientific Societies, Reviewer in many peer-reviewed journals. She coordinated research projects, published books

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