Anti-DNA antibody for targeted delivery to tumors

OCR Number: OCR 7013

Description:

Circulating autocatalytic anti-DNA antibody 3e10

- **Background:** A key feature of the tumor microenvironment, compared to healthy tissue, is the presence of a comparatively larger amount of extracellular DNA from actively dividing, apoptotic or necrotic tumor cells.
- Circulating anti-DNA autoantibody 3e10 penetrates cell nuclei. When it is conjugated to the surface of nanoparticles, it targets the nanoparticles to the extracellular DNA in the tumor environment.
- The conjugate works in an autocatalytic manner that increases in efficiency with time and treatment.
- **Innovators:** James Hansen and Jiangbing Zhou
- **IP status.** Provisional patent application filed
- **Reference:** Chen et al. (2016) Oncotarget

![Graph showing tumor volume over days with different treatments.](image)

Synthesized DOX-loaded PLGA nanoparticles with surface-conjugated 3E10EN have a significantly greater effect on tumors than DOX-NPs or DOX alone.

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