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 for different groups: PBS, DOX Solution, DOX-NPs, 3E10PN, NPs, 3E10PN-DOX-NPs. The graph indicates that synthetic DOX-loaded PLGA nanoparticles with surface-conjugated 3E10EN have a significantly greater effect on tumors than DOX-NPs or DOX alone.]

**PI:** James Hansen, Jiangbing Zhou

**Licensing Contact:** John Puziss
john.puziss@yale.edu