Office for Technology Commercialization

Improved Cryosurgical Destruction of Tissues Using TNF-Alpha and Other Pro-Inflammatory Molecules

The University has developed a technique utilizing potent adjuvant agents delivered by nanoparticle to significantly enhance hypothermic tumor damage with isolated or minimal systemic exposure. Cryosurgery therapy can be applied to multiple tumor types and cancerous tissue. Tests have shown a dramatic increase in tumor regression and improvement in wound healing using this technology. The University is seeking a partner to further refine and market the therapeutic device.

Features & Benefits

Selective and highly recognizeable biodistribution:
* Use of select nanoparticles increase adjuvant uptake in tumor
* The nanoparticle can be detected within the tumor
* Iron (used with the adjuvant) can be detected in vitro (magnetophoresis) and in vivo (MR)

Dramatic efficacy:
* Combination of nanoparticle-adjuvant and cryosurgery technique allows destruction of all tumor within an iceball.
* Combination of nanoparticle-adjuvant and hyperthermia leads to statistically significant enhanced tumor cell and vascular destruction

FSaII + SCK similar response
* No adjuvant toxicity with combination nanoparticle-adjuvant nanoparticles.
* Iron can be used in vitro for selective cell therapies

Some toxicity at high concentrations (with surfactant)

Technology Status

Studies were undertaken in SCK mammary carcinomas grown in A/J underway with cannine SCK carcinomas. mice. Further studies are

IP Status

US patents issued: 7,344,530 and 7,344,531

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UM Docket Z03120

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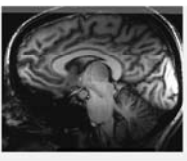




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