



**UNSW**  
SYDNEY



## X-ray Induced Chemotherapy via Engineered Liposomes for Deep Cancer Therapy

**The number of new cancer cases each year is increasing and there is a shortage of new clinical approaches to fight it. A targeted liposome drug delivery system, enabling X-ray induced chemotherapy has been developed for the treatment of tumours, particularly those located in deep tissue.**

### Competitive advantage

- Safety nanocarrier delivery system
- FDA approved ingredients for liposome formulation
- Cancer-targeting capability of the delivery system
- Synchronous action of chemo and low dose x-ray radiation
- Minimal systemic toxicity of chemotherapy drug to healthy tissues
- Adjuvant treatment of deep tumours

### Impact

- It is estimated that in 2020, there will be approximately 150,000 new cases of cancer diagnosed in Australia. This technology significantly enhances the therapeutic efficacy and reduces the systemic toxicity of the chemotherapeutic agents which are used in concurrent chemo and radiotherapy. This will offer a paradigm-shifting alternative for patients who are too fragile or have become resistant to chemotherapy.

### Successful outcomes

- The development of a targeted liposome drug delivery system, enabling X-ray induced chemotherapy (PCT/AU2018/000247). The anti-tumour effect produced by this innovation was used for tumour treatment in preclinical studies, particularly those located in deep tissue.

### Capabilities and facilities

- The lab has extensive facilities for the design and testing liposome drug delivery system.

### Our partners

- Royal N

### More Information

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