



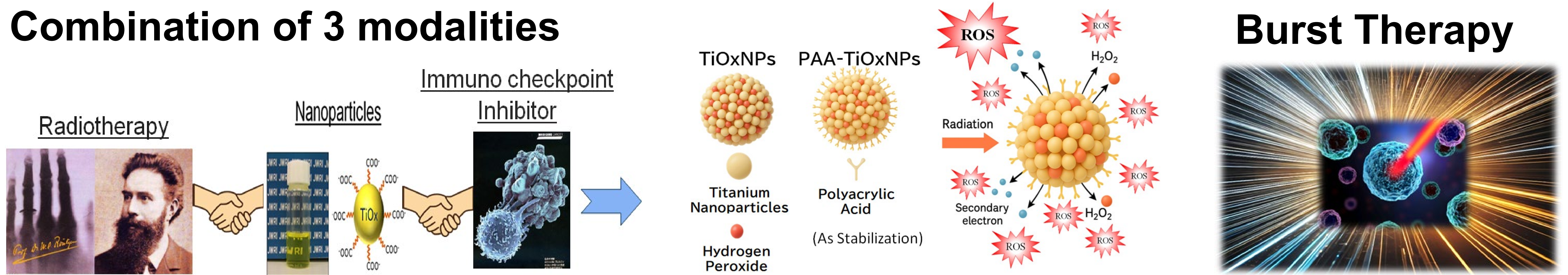
# Radiation-Induced Cancer Vaccine: "Burst Therapy"

## Redefining Cancer Radiotherapy with Transforming Local Therapy into Systemic Therapy

神戸大学

Ryohei Sasaki, Hiroaki Akasaka, Graduate School of Medicine  
Chiaki Ogino, Bioengineering , Applied Chemistry, Kobe University

## Combination of 3 modalities



## Burst Therapy

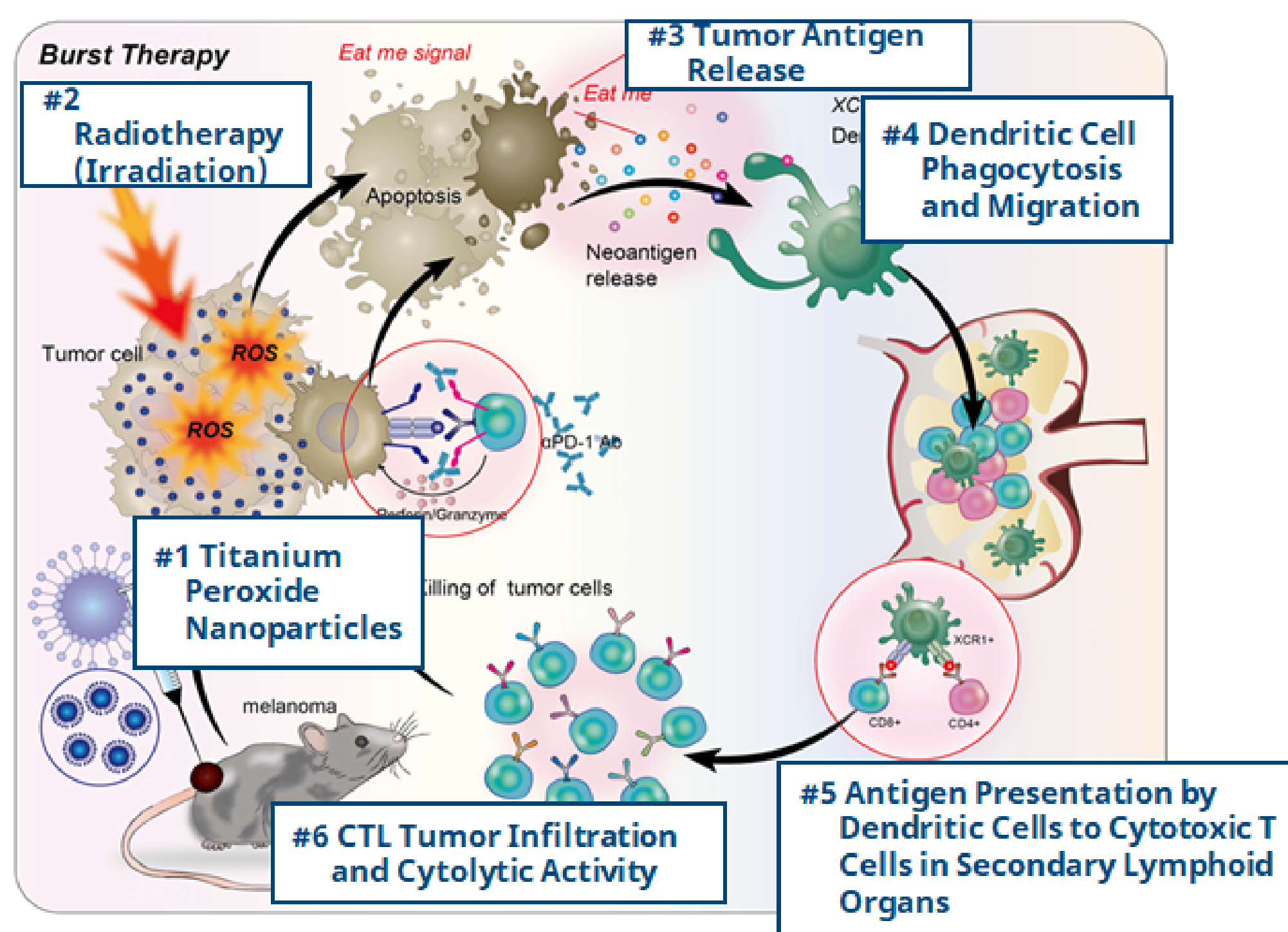
## Technical Significance

### Innovative Solution | Mechanism of "Burst Therapy"

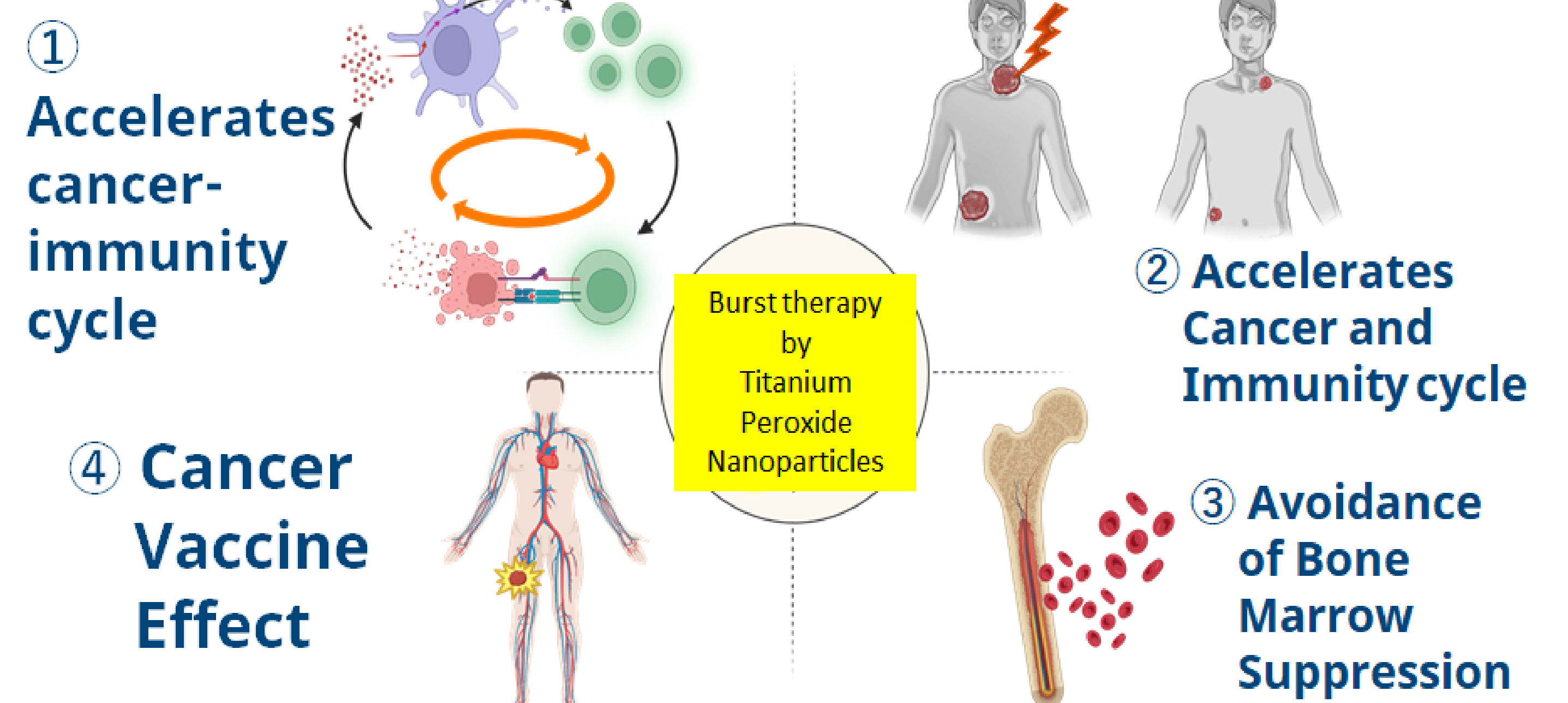
#### Burst therapy

1. Titanium Peroxide Nanoparticles
2. Radiotherapy (Irradiation)
3. Immune Checkpoint Inhibitors (ICIs) (αPD-1 Ab)

The combination of the above three accelerates the cancer-immunity cycle, achieving remarkable anti-tumor effects.

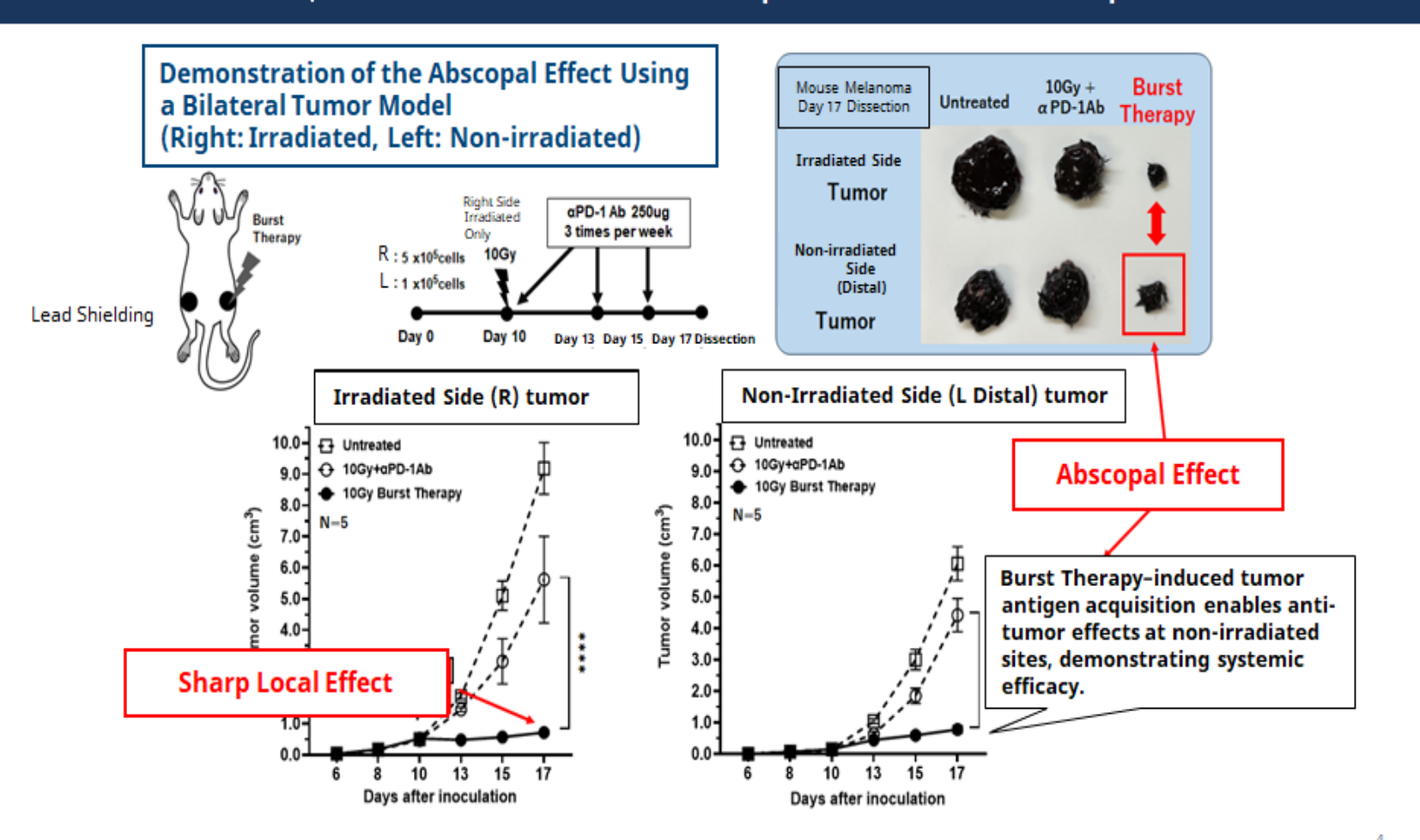


### Summary of Advantages of "Burst Therapy"

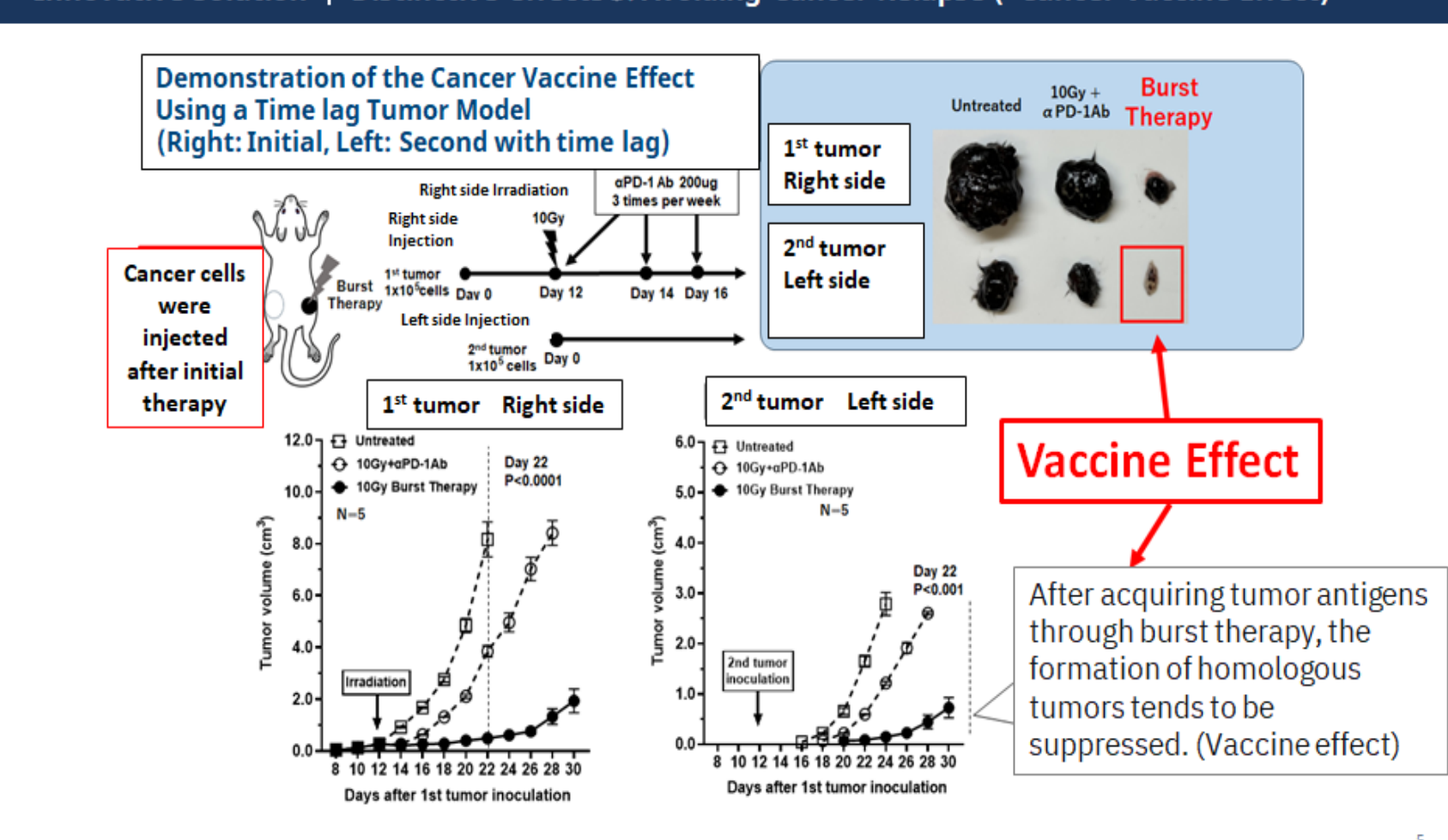


## Significant Findings

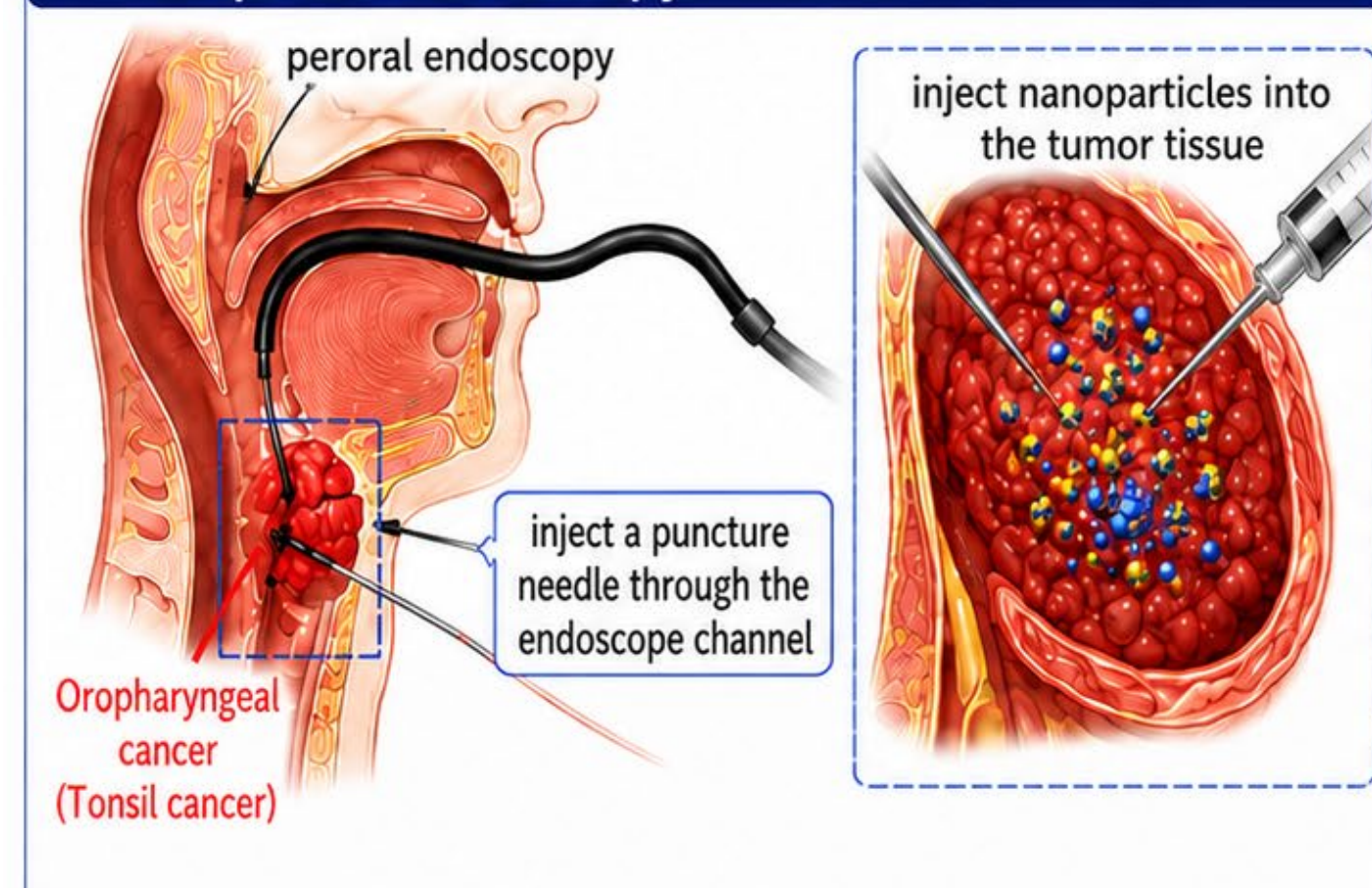
### Innovative Solution | Distinctive effects 1 and 2: Sharp Local control and Abscopal Effect



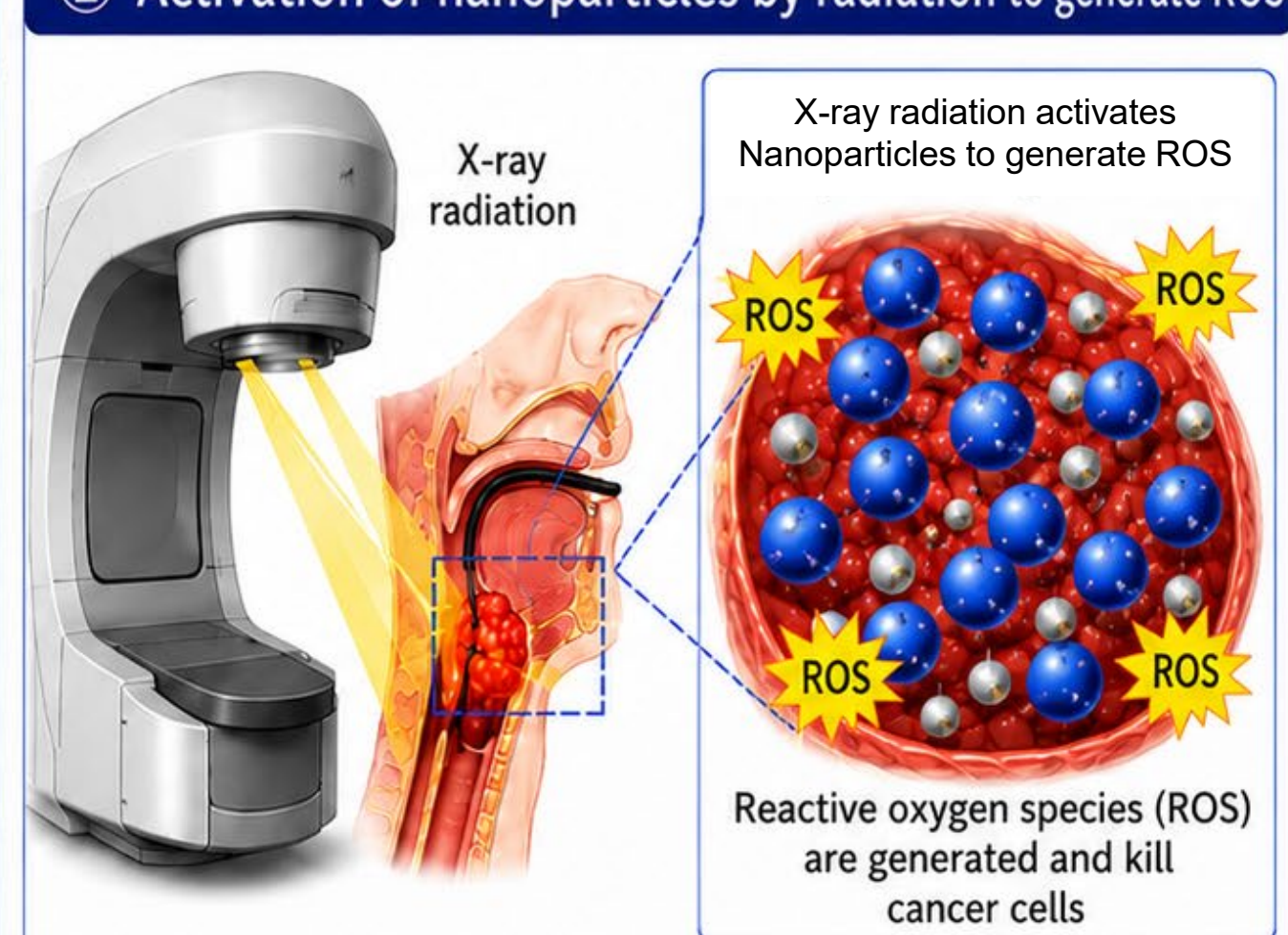
### Innovative Solution | Distinctive effects 3: Avoiding Cancer Relapse (=Cancer Vaccine Effect)



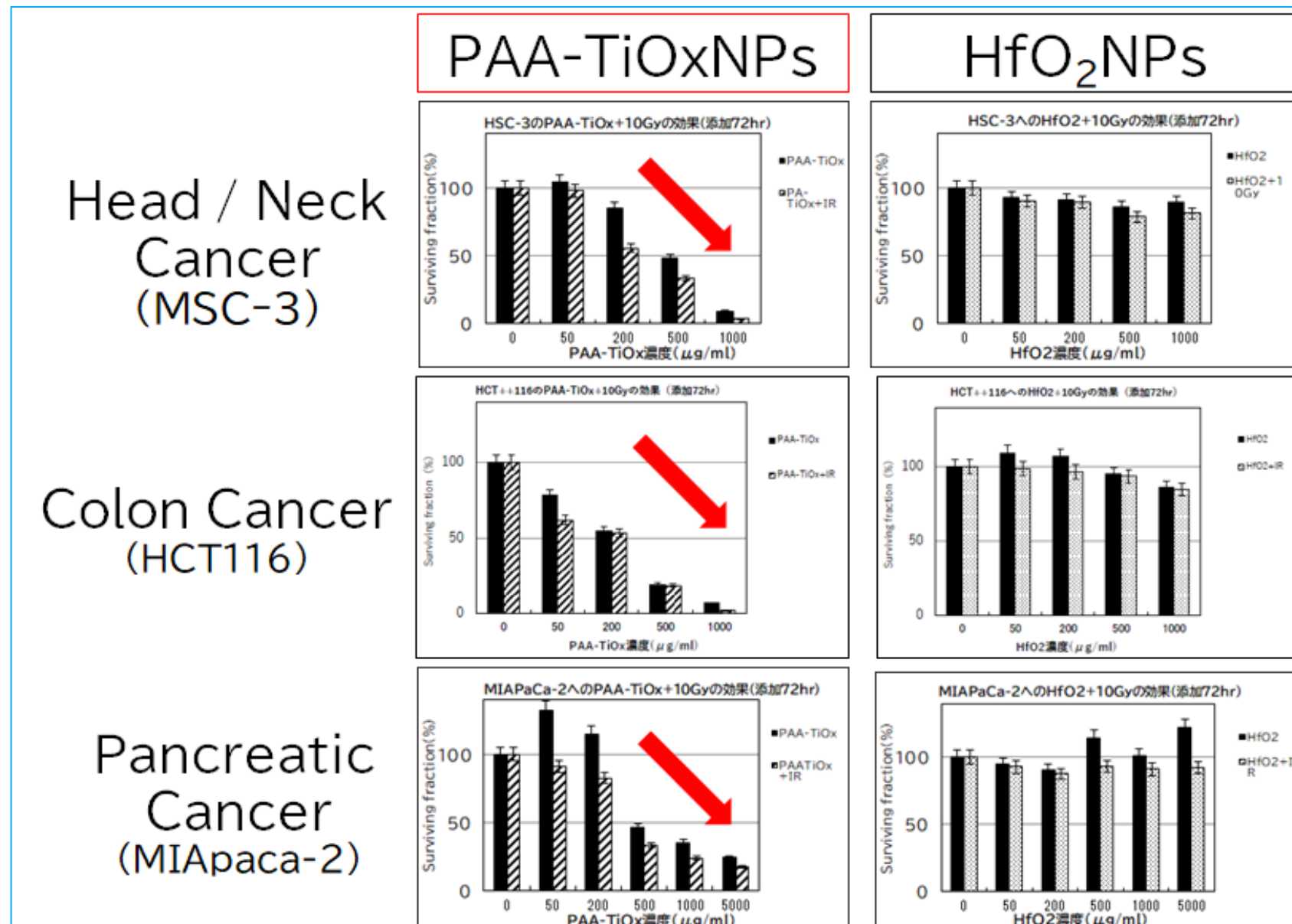
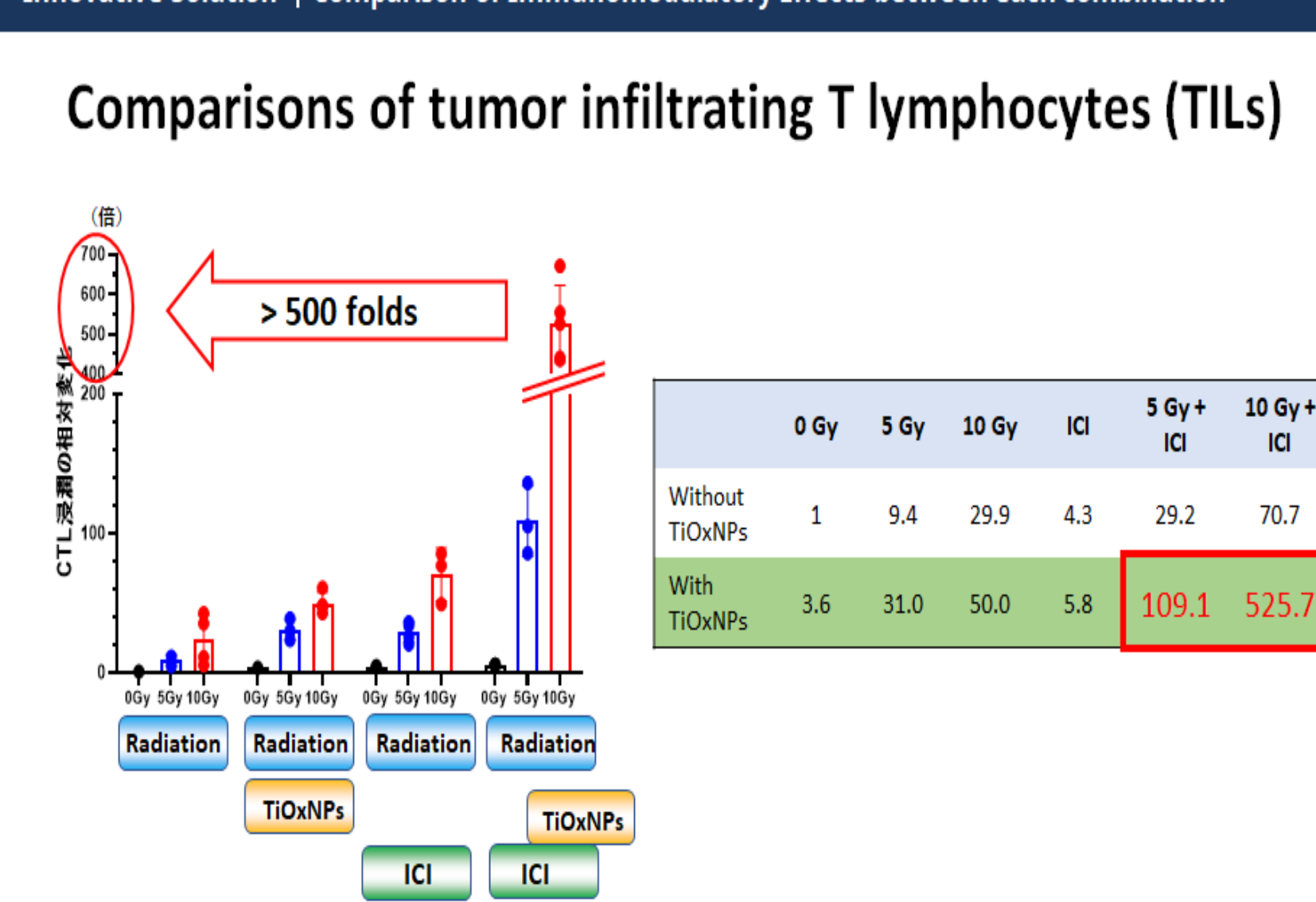
### ① Nanoparticle injection into a head and neck cancer via peroral endoscopy



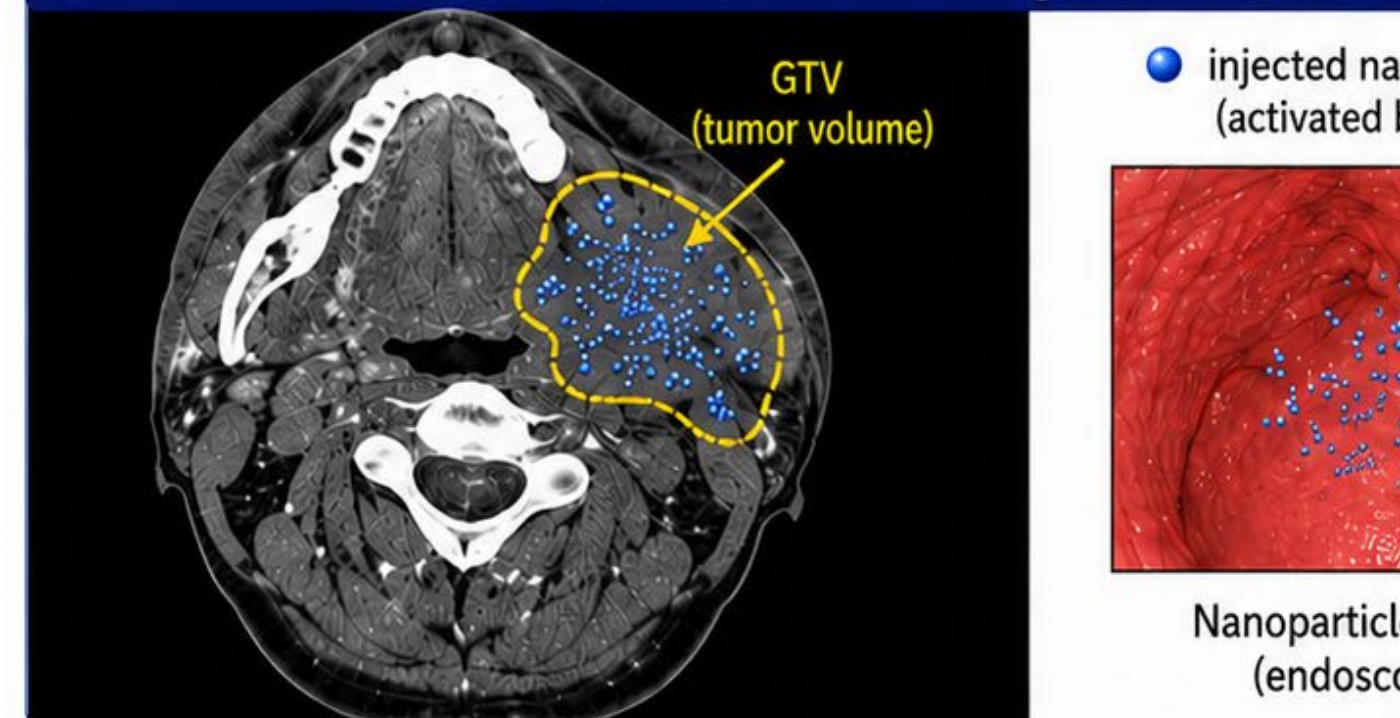
### ② Activation of nanoparticles by radiation to generate ROS



### Innovative Solution | Comparison of Immunomodulatory Effects between each combination



### ③ Distribution of nanoparticles on CT images (post-injection)



Local injection of nanoparticles using peroral endoscopy, then activated by nanoparticles by radiation to generate ROS, enabling selective tumor treatment (Burst therapy concept).

## Future Prospective

### Market Entry Strategy

- Initial Target: Radiation-resistant head & neck cancers, sarcomas, and other refractory cancers
- Indication Expansion: Phased expansion to colorectal and pancreatic cancers
- Regional Deployment: Priority markets in Japan, US, and Europe

| Filing Country | Title                   | Filing Date | Application Number | Patent Number     | Status              |
|----------------|-------------------------|-------------|--------------------|-------------------|---------------------|
| WO (JP US )    | PHARMACEUTICAL          | 2024/03/29  | WO2024/204688      | PCT/JP2024/012996 | Under Consideration |
| WO (JP US CN)  | RADIATION THERAPY AGENT | 2011/02/17  | WO/2011/102407     | PCT/JP2011/053348 | Granted (JP US CN)  |

## Contact

Global Innovation Catapult  
Institute for Digital Bio Life Science Research Park  
Kobe University  
1-1 Rokkodai, Nada, Kobe 657-8501, Japan

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