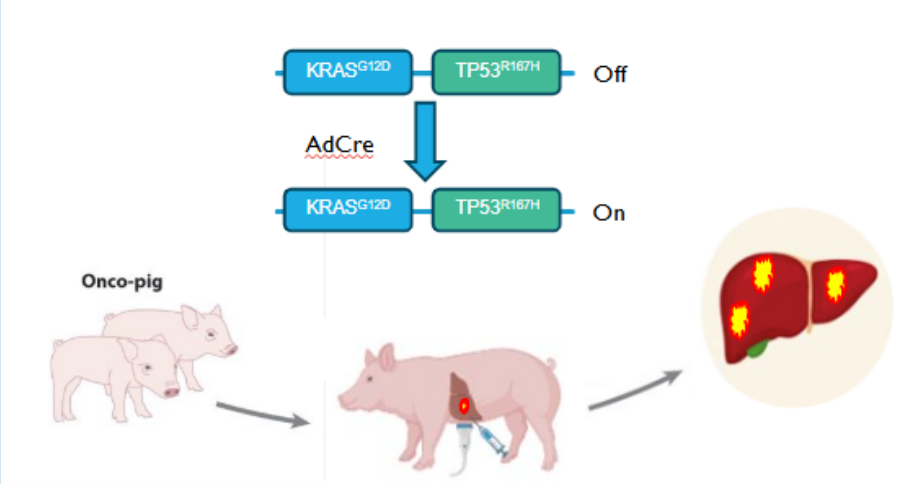
Sus Clinicals

Oncopig® Liver Cancer Model

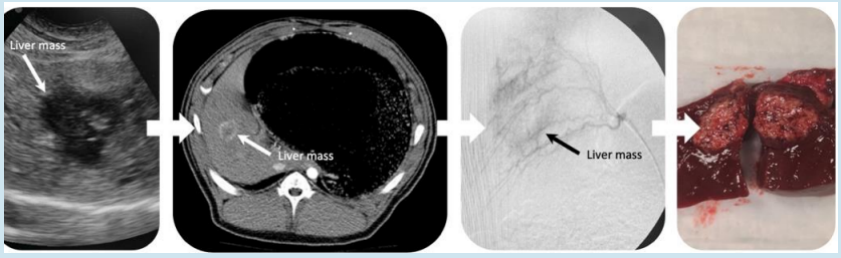
The Oncopig®: A Preclinical Model for Cancer Research

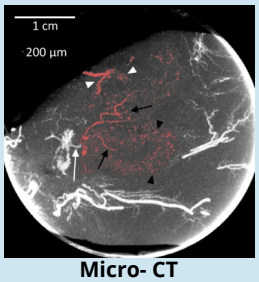
- **The Oncopig® :** A transgenic model that enables precise induction of diverse tumor types in specific tissues or cell types at targeted times.
- Tumors expresses KRAS G12D and TP53 R167H driver mutations, with additional tumor customization possible through CRISPR-based mutation editing.
- **Human-Like Characteristics:** Tumors have remarkably comparable size, anatomy, histology and drug metabolism
- **Comorbidity Models:** Ability to include clinically relevant comorbidities like alcohol induced liver cirrhosis.



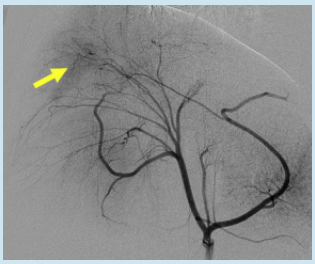
Schook, L. B., et al. (2015). Unraveling the Swine Genome: Implications for Human Health. *Annual Review of Animal Biosciences*, 3, 219–244. https://doi.org/10.1146/annurev-animal-022114-110815

100% of Oncopigs with Tumor Formation





Micro- CT



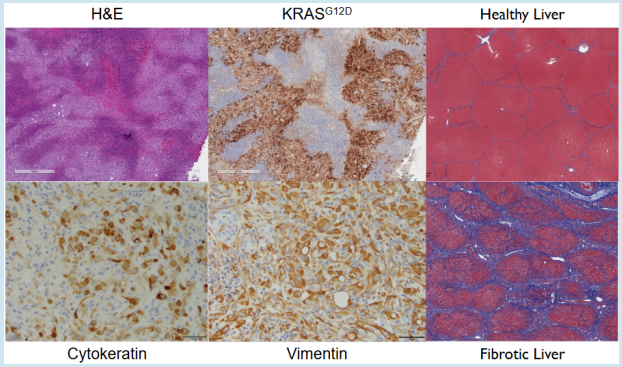
Cone beam CT

Oncopig® Liver Tumor Induction

- **On-Demand Tumor Generation:** Ultrasound-guided liver biopsy collection, AdCre incubation, and re-injection results in neoplastic tumors at defined locations within the liver.
- **Tumor Formation:** Tumors form at **85%** of injection sites and reach a size of 0.5 - 4 cm within 2 weeks.
- **Imaging Capabilities:** Tumors are targetable using ultrasound, CT, MRI, and angiography.

Neoplastic Tumor Masses With Non-Specific Histology

- Poorly differentiated to undifferentiated carcinomas accompanied by a major inflammatory component.
- KRAS G12D staining confirms transgene expression consistent with malignancy.
- Presence of epithelial (cytokeratin) and mesenchymal (vimentin) differentiation.
- Capable of inducing alcoholic liver fibrosis in combination with tumor induction.



Reach out for more information!
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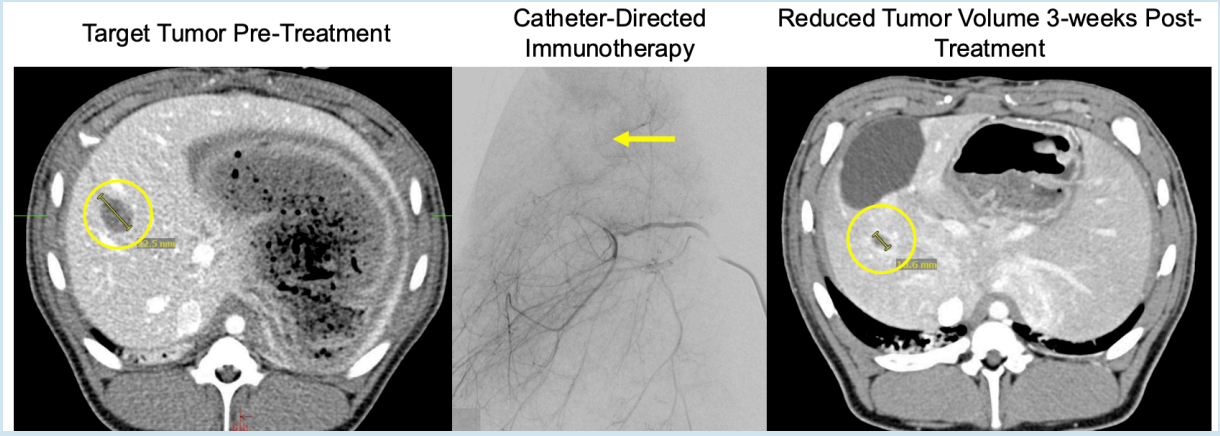
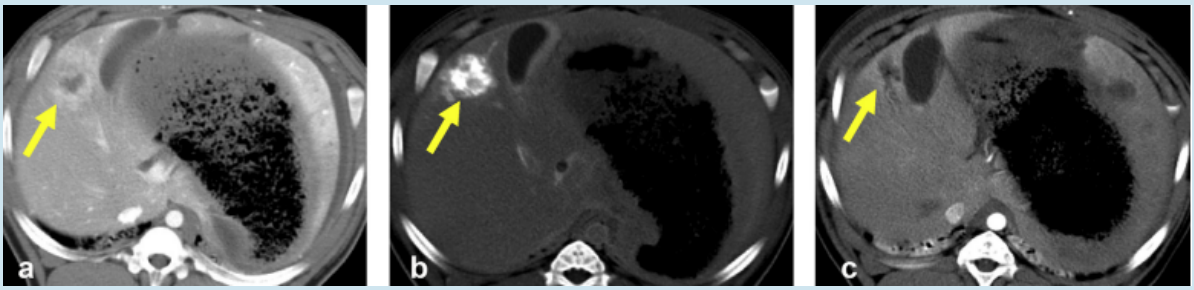
Oncopig® Liver Cancer Model: Device-based Therapeutic Delivery

Demonstrated Safety and Efficacy of Novel Allo-Engineered Immunotherapy



- Confirmed successful tumor targeting and safety of an allo-engineered immunotherapy.
- Confirmed efficacy based on reduction in tumor size compared to untreated controls.

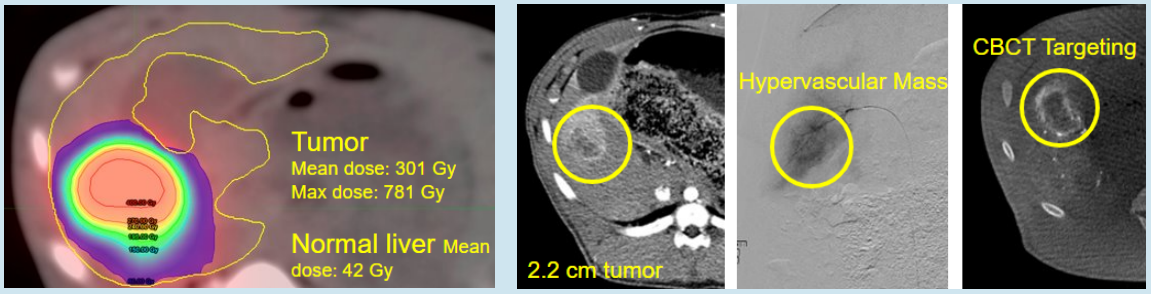
Transarterial Embolization of Liver Cancer



Nurili, F., et al. (2021). *Journal of Vascular and Interventional Radiology*, 32(3), 469–478. https://doi.org/10.1016/j.jvir.2020.09.011

- Confirmed successful tumor targeting based on retained contrast in tumors following transarterial embolization.
- Confirmed efficacy based on reduced size of embolized tumors compared to untreated controls.

Yttrium-90 Radioembolization in Liver Cancer Model



- Tumors were successfully targeted using transarterial radioembolization.
- With an administered activity 1.09 GBq, mean tumor dose achieved (205 Gy) was significantly higher than liver (40 Gy) and lung (11 Gy). No procedure related adverse events or laboratory toxicities were observed.

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