

Brain cancer xenograft modeling in zebrafish for preclinical drug testing

Short description

This project uses larval zebrafish xenografts as a fast and powerful in vivo platform to study pediatric brain cancer and test new therapies. Human tumor cells are transplanted directly into the zebrafish brain, allowing the same tumor to be followed over time by high-resolution live imaging. The student will work with established cell lines and patient-derived samples, test candidate drugs and drug combinations, and assess both toxicity and anti-tumor effects. Treatment responses can be compared with in vitro, mouse, and available clinical data. The project combines live imaging, pharmacology, image analysis, and mechanistic immunostaining. The mid-term aim is to support translational drug discovery and personalized oncology. Available January 2027.

Keywords

Zebrafish xenografts, brain cancer, pediatric tumors, live imaging, image analysis, drug screening

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Conditions

Highly motivated students with an interest in zebrafish models, live-cell imaging, or preclinical drug development are encouraged to apply. Previous experience with zebrafish and cell culture is helpful but not required.

