CLR 131 in Patients with Relapsed or Refractory Pediatric Malignancies

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The presenter has no conflict of interest with any corporate organizations relating to this presentation.

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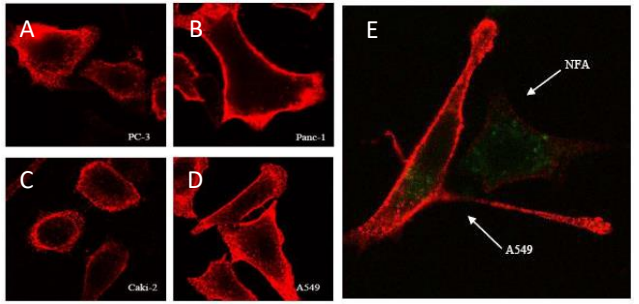
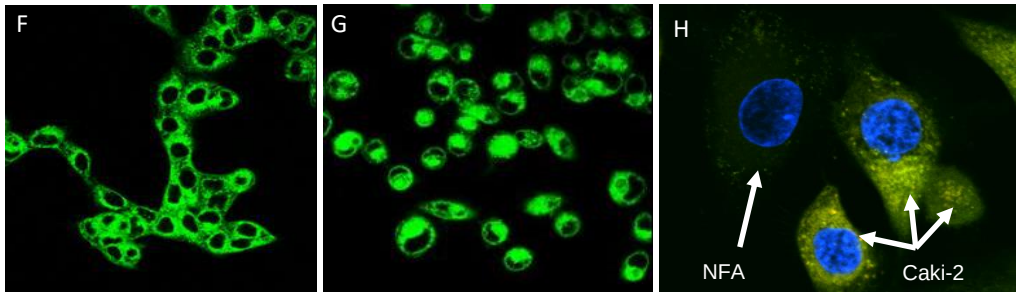
- M. Otto: Research funding from Cellectar Biosciences
- Ongoing study: Presentation contains preliminary data that are partially monitored and validated

PLE-Targeted Oncology Payload Delivery

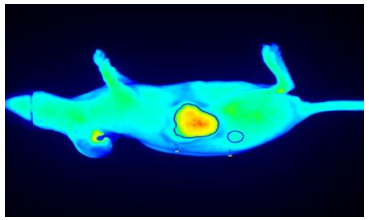
- Phospholipid ether (PLE) molecules are utilized to deliver cytotoxic molecules to tumors
- PLEs bind and enter tumor cells via lipid rafts; lipid rafts have been shown to be more prevalent and stabilized in tumor cells
- PLEs show preferential uptake in broad range of tumor cells; particularly hematologic cancers
- Demonstrated targeted in vivo delivery
- Preclinical studies demonstrate that the PLEs provide delivery of the I-131 to a wide range of tumors, including pediatric malignancies



A, B, C, D, E demonstrates presence of lipid rafts on various tumors . A=prostate; B=pancreatic; C=renal; D=lung; E is co-culture of lung tumor and normal fibroblasts and treated or 24 hours. Staining is with cholera toxin B.



F, G and H show in vitro uptake of fluorescently labeled PLE. F=colorectal; G=glioma; H is co-culture

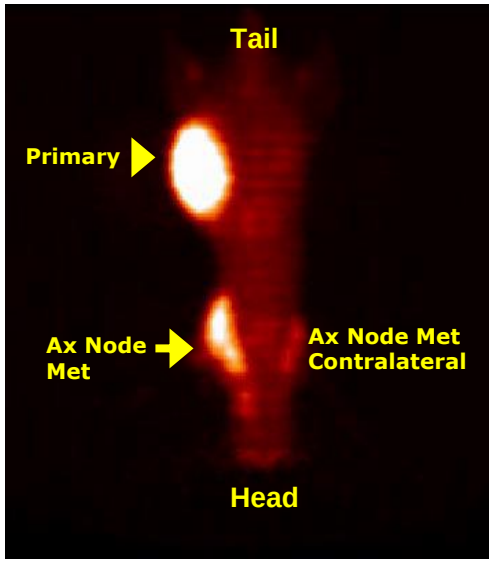


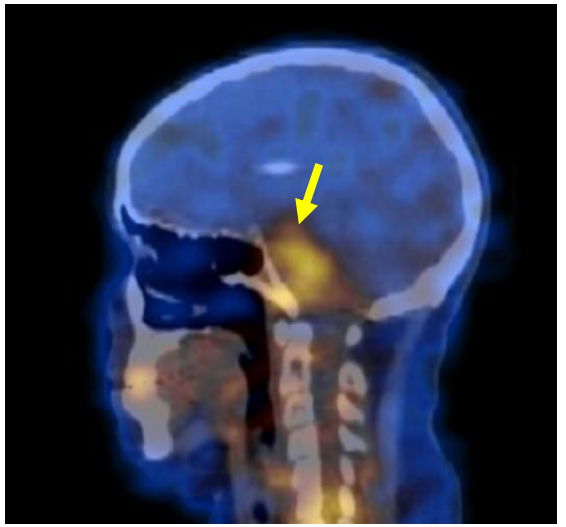
In vivo uptake in colorectal xenograft model. Image is 24 hours post infusion utilizing a near infra-red fluorescently labeled PLE.

Rationale for CLR 131 in Pediatric Malignancies

- CLR 131 is a targeted radiotherapeutic leveraging PLE molecules to provide targeting of iodine-131 payload
- Over 100 patients dosed with CLR 131 Phase 1 and Phase 2 studies
  - Adult hematologic and solid tumor
  - Pediatric brain and solid tumors
- Here we provide initial data on the safety of CLR 131 in pediatric malignancies

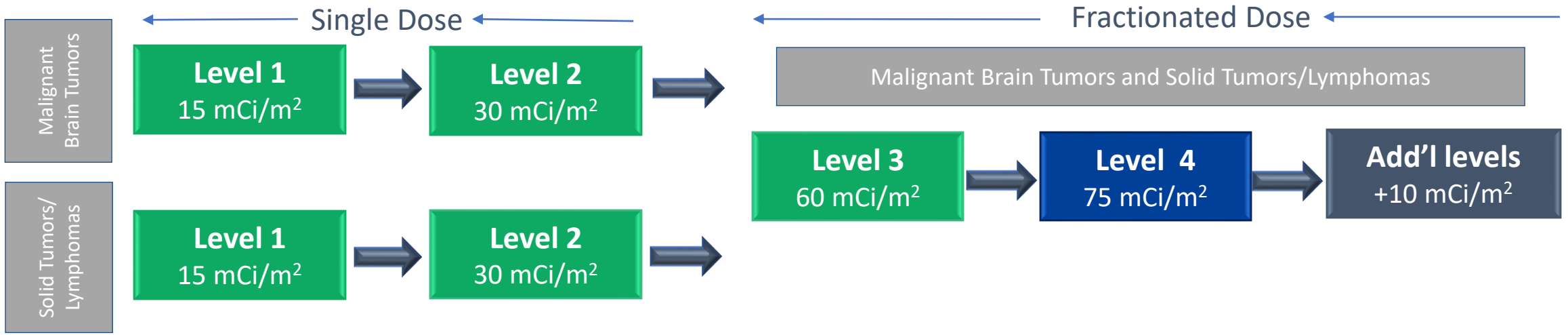
CLR 131 targeting in metastatic xenograft model





CLR 131 targeting in pediatric DIPG patient

CLR 131 Phase 1 Pediatric Study Design



- Primary objective is to determine the safety, tolerability, and initial efficacy of CLR 131 in children and adolescents with relapsed/refractory malignancies
- Key eligibility include:
  - Children with relapsed or refractory solid tumors or malignant brain tumors for which there are no standard treatment options with curative potential
  - Subjects must be between ages 2 and 21 with no limit to the number of prior therapies
- Independent Data Monitoring Committee (iDMC) has evaluated all dose levels shown in green and has deemed them safe and tolerated
- Dose level 4 evaluation is ongoing

CLR 131 Patient Characteristics: Brain Tumors

	15 mCi/m²	30 mCi/m²	60 mCi/m²	Total
Enrolled	1	5	1[a]	7
Diagnosis				
DIPG	1	2	-	3
Ependymoma	-	1	1	2
Glioblastoma	-	1	-	1
Medulloblastoma	-	1	-	1
Median Age (range)	10	14 (6-15)	13	13 (6-15)
Median Prior Therapies (range)	2	4 (1-8)	4	4 (1-8)

Patient enrollment as of 10 August 2020

a. Subject has received 2 cycles of CLR 131

CLR 131 Brain Tumor Cohort - Summary of TEAEs

Treatment Emergent AE / Regardless of Causality > 30% (N=7)

Preferred Term	All doses, < Grade 3 n=7 (%)	All doses, Grade 3-4 n=7 (%)
Fatigue	3 (43)	0
Headache	3 (43)	0
Nausea	4 (57)	0
Neutropenia	0	3 (43)
Thrombocytopenia	0	4 (57)
Vomiting	3 (43)	0

Single worst grade reported as of 10 August 2020

Conclusions

- CLR 131 is a unique, first in class targeted radiotherapeutic for pediatric malignancies
- Preliminary safety data shows similar to adults, cytopenias are the most commonly reported adverse event
- iDMC has deemed all completed dose levels as safe and tolerated
- Dose escalation to determine the highest tolerated dose and tumor response is ongoing

Acknowledgements

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