Second Chordoma Community Conference: Persevering to find a cure

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Chordoma Foundation Support

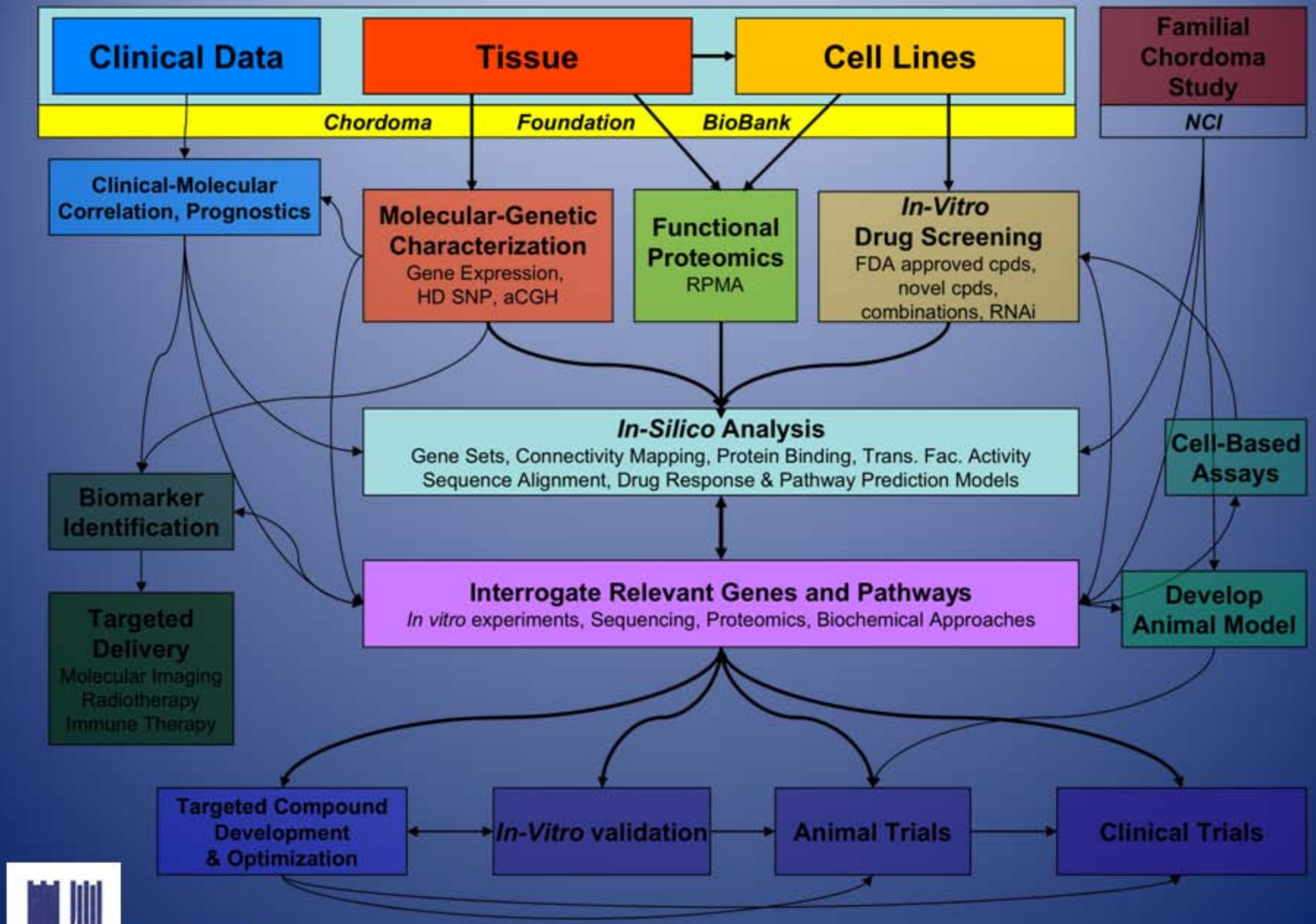
- Dr. Kelley sends his greetings and thanks
- My position partially funded by Foundation
- Seed money that sprouted!
  - Duke Department of Medicine Bridge support
  - Veterans Administration Merit Award Grant to Dr. Kelley for Chordoma Research
- Thank you, Thank you, Thank you!

Our Research- the why, what and how of chordoma

1. Why do chordoma grow? Why are the cells different? Understanding the genetics of Chordoma (with Dr. Perry et al.)
   - Most chordoma develop without apparent cause but is does occur in multiple family members in a small number families

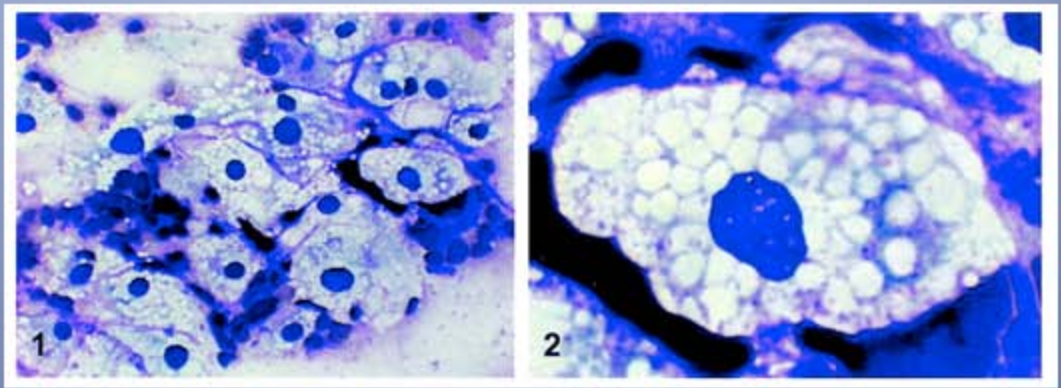
2. What causes the changes in the cells?
   - Explore what genes and proteins are involved in making these cells grow inappropriately

3. How can we intervene and develop therapies for treatment and find a cure?
   - Working with Dr. Austin NCGC on drug screen on the cell lines
   - Identifying the key proteins and mechanisms may lead to targeted drugs

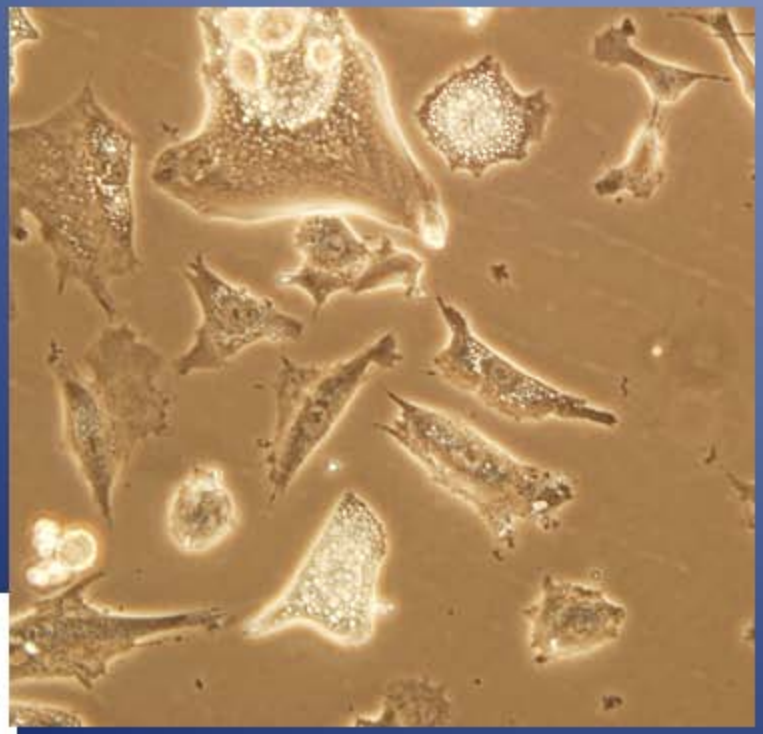


Chordoma and chordoma cell lines

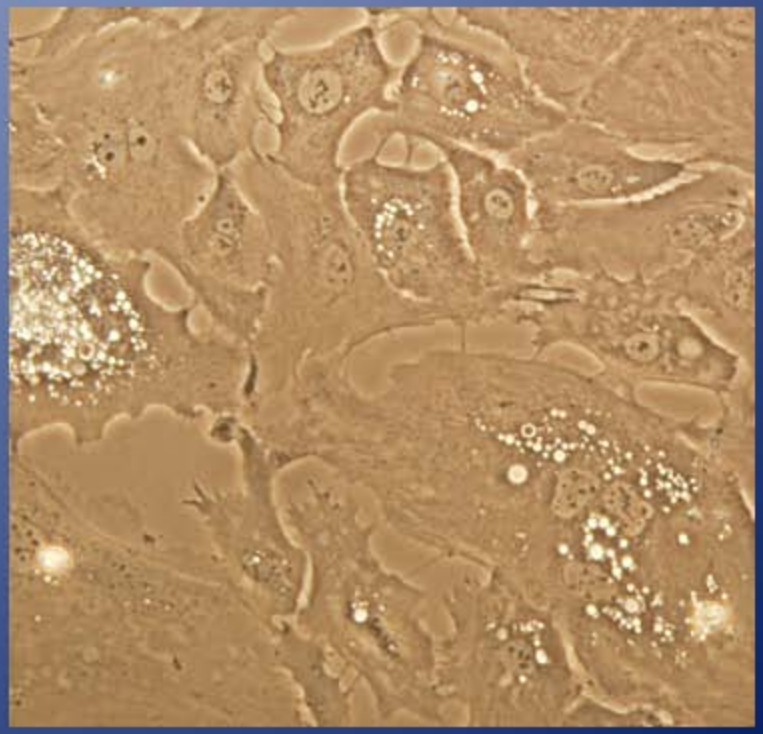
Conventional Chordoma



U-CH1 (ULM)



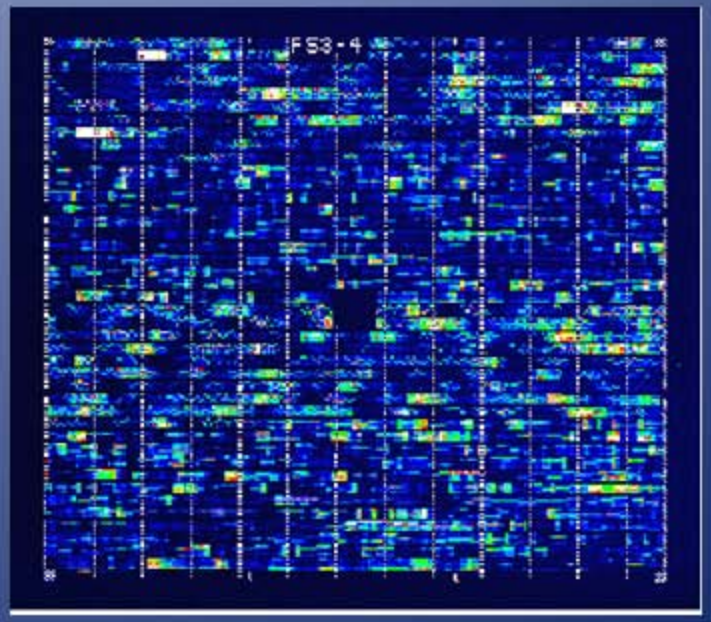
U-CH2 (ULM)



Microarrays to measure amount of a given mRNA

DNA
(20-30K genes in human Genome)
to
mRNA
(30-40K but typically only ½ expressed in a given cell)
to
Protein

Microarray (measures amount of a given mRNA in sample)



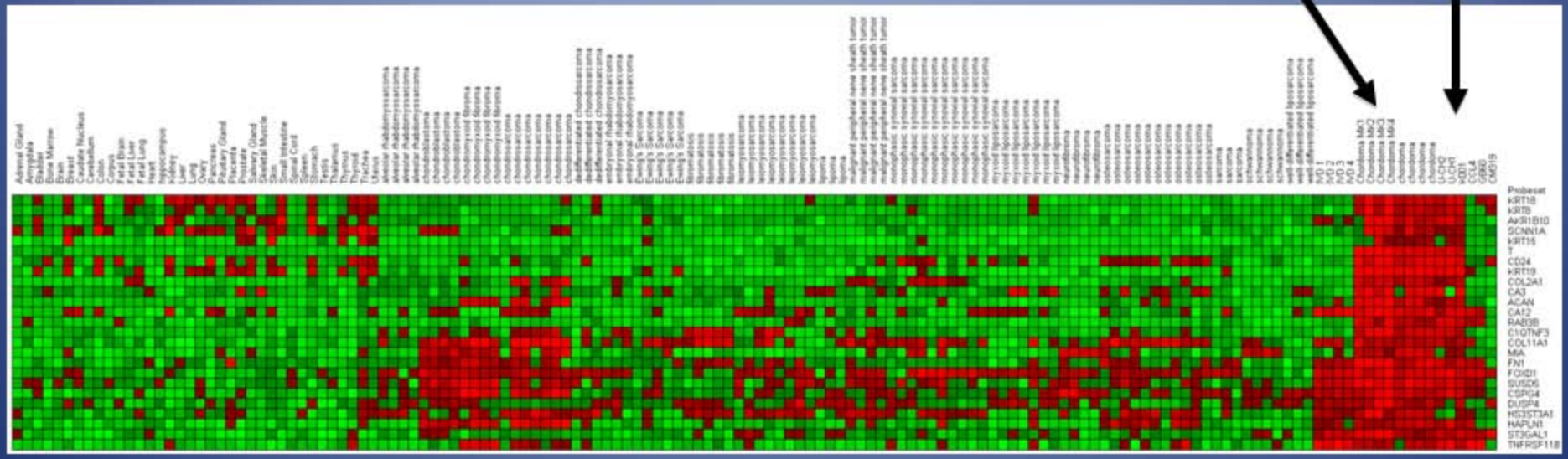
Gene Expression in Chordoma Tumors

("Dr." Josh Sommer analysis)

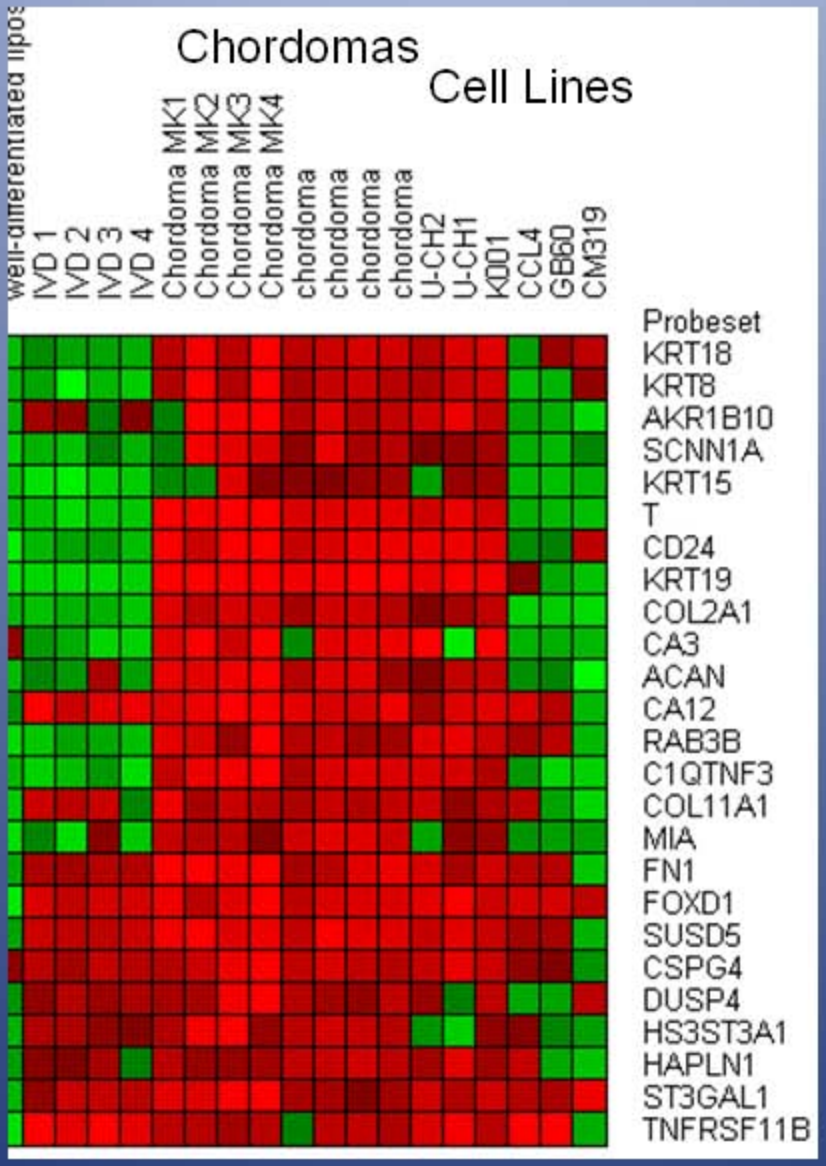
Cell Lines

Other Tissues and tumors

Chordomas



Gene Expression (II)



Growing Resources for the Research Community

- Develop and characterize new cell lines
- Generating protocols so we can ask the patients to use their medical information, samples and tissues for research.
- Getting access to additional new and archived biopsy for research
- Distributing these tissues, cells and samples to other labs.

Find a cure.

Foundation has mobilized and motivated labs by all means "legally" possible and funded when possible new and exciting work.

Tearing down walls!

New research is started and exciting results are coming out.