M2D9:Complete cell viability assay

04/12/2018

1. Quiz
2. Complete cell viability assay
3. Complete RNA-seq analysis with R and TCGA

- Grading M2D4 lab notebook, complete by 10pm ~~tonight~~ Friday

Extra Office Hours

- Leslie: Tuesday April 17th 56-322 (lab), 10:30am-1:30pm
- Josephine: Wednesday April 18th 56-322, 10:00am-1:00pm
- Noreen: Tuesday and Wednesday 56-322, 2:00-4:00pm
- Regular office hours will be offered Tuesday-Friday

Mod2 Research Report (20% of final grade)

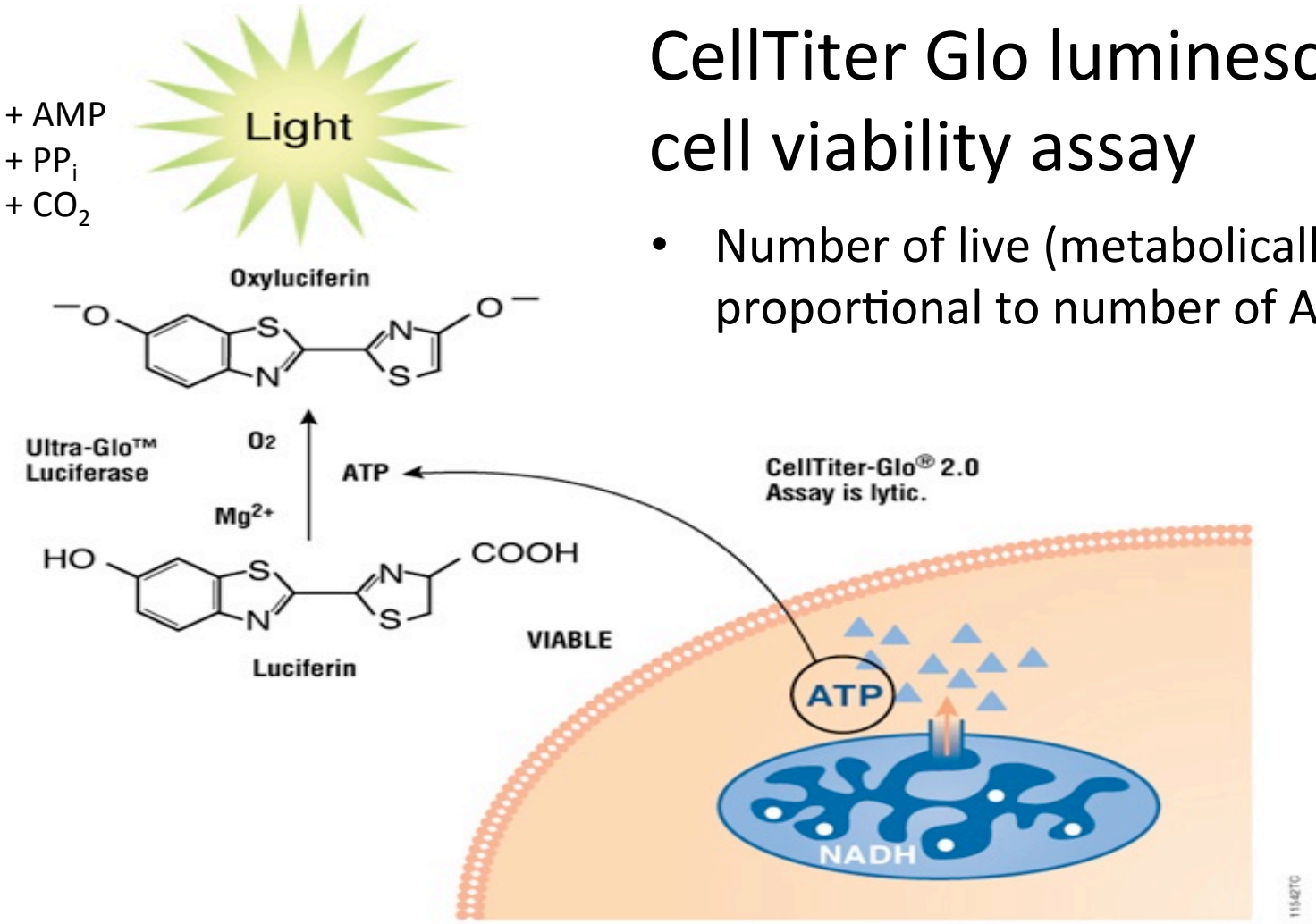
Due Saturday 4/21 at 10pm

- Title, Abstract
- Introduction
- Methods
- *Results (Figures and captions)*
- Discussion
- References
- ***Use class data in at least one figure***

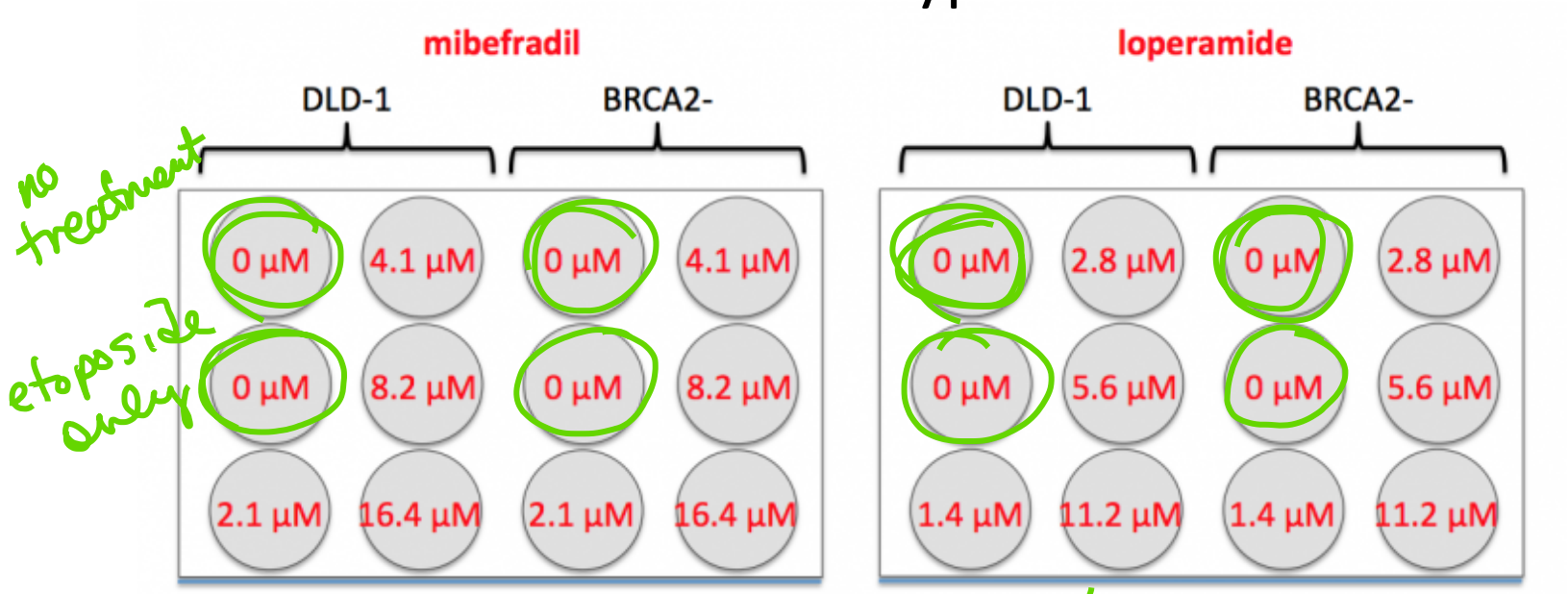
- Schematics (intro or Results)
- PCAnalysis
- heatmap/dendrogram
- gene ontology table/list
- comparison to cancer genome atlas
- qPCR
  - primer comparison
  - RNAseq comparison
- cell viability assay

CellTiter Glo luminescent cell viability assay

- Number of live (metabolically active) cells proportional to number of ATP molecules



What do we hypothesize?

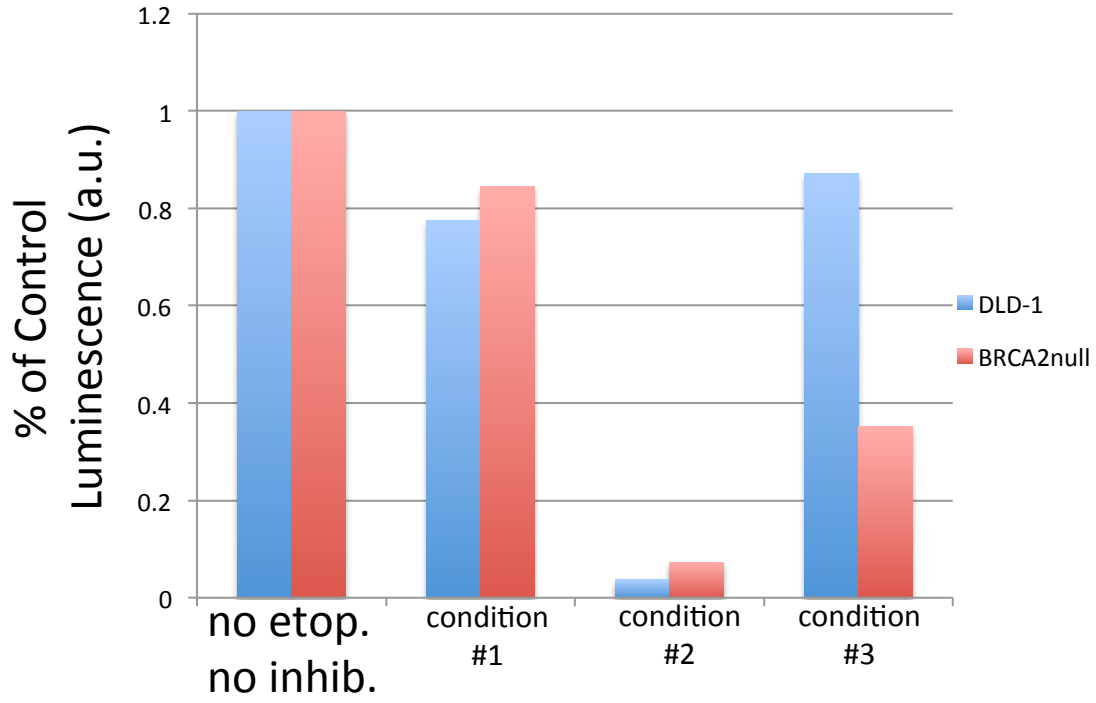


A_1 + A_3 highest viability / normalize

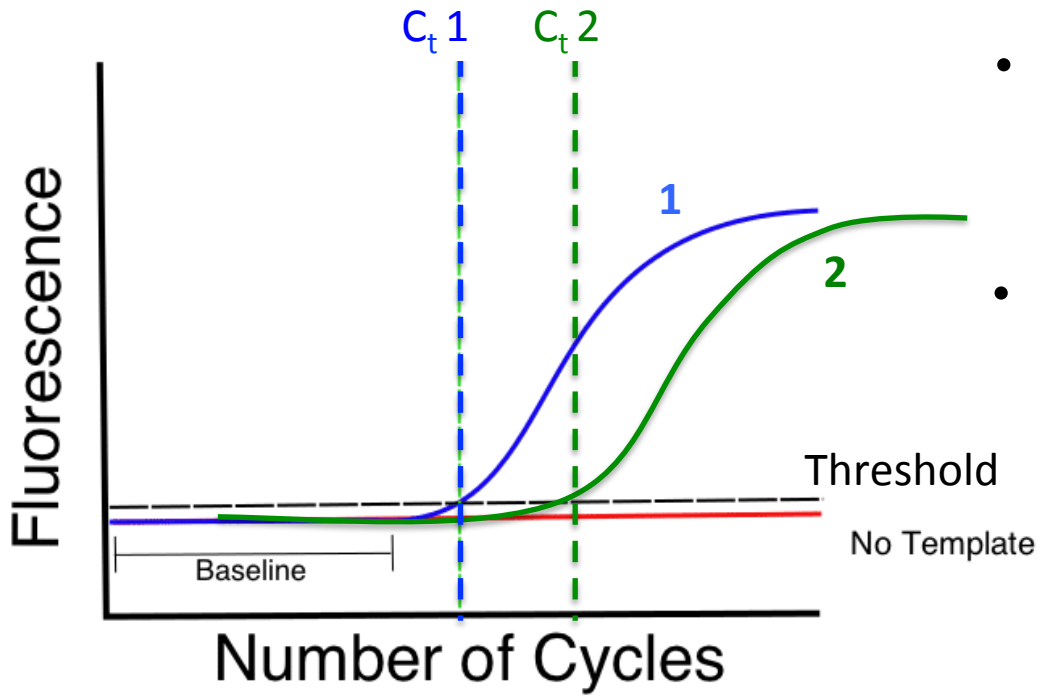
C4 lowest viability

Analyze cell viability data, with error bars (C.I.) and find the statistical significance (Student's t-test)

confidence intervals



Calculate relative amounts of cDNA based on threshold cycle (C_T)



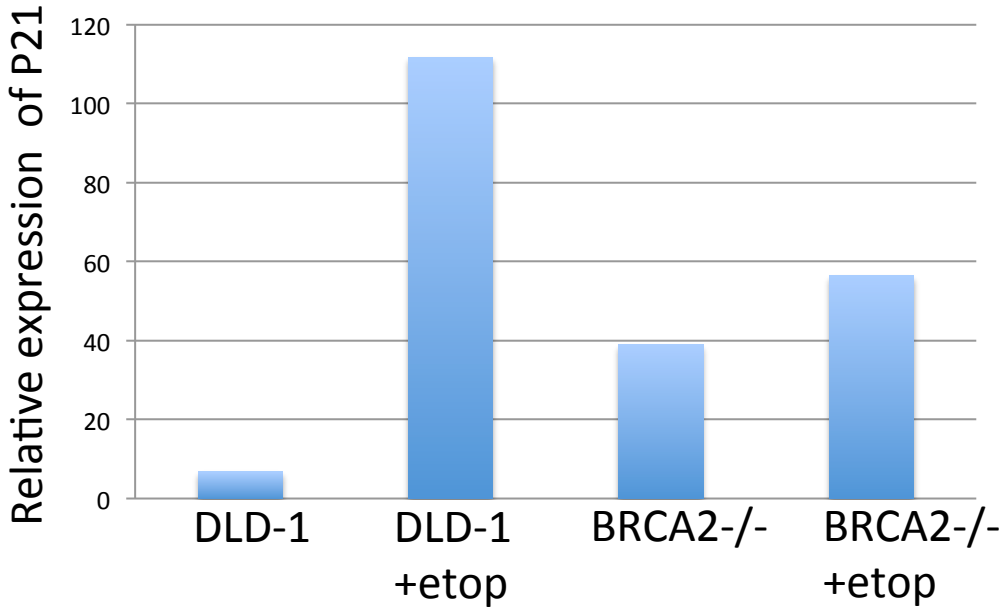
https://bitesizebio.com/24581/what-is-a-ct-value/

- C_T is calculated from qPCR after all cycles complete

- Which gene has higher expression—that represented by Curve 1 or Curve 2?

Curve #1, fewer amplification cycles were necessary to reach same level of fluorescence

Representing qPCR results
(include C.I. and statistical significance)



Today in lab

1. Retrieve cells from TC and start Cell titer glo assay:
   - Plate #1: Blue, Pink, Purple, White, Grey
   - Plate #2 : Red, Orange, Yellow, Green
2. Complete any additional analysis necessary for your report!