

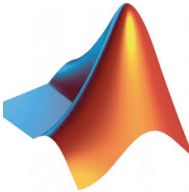
M1D8: Assess protein function

03/04/2016





Today in lab



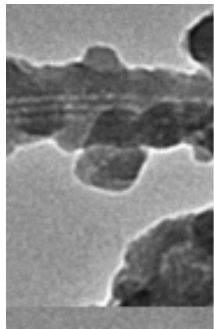
- Bernard M. Gordon MIT
Engineering Leadership Program (GEL)
- Quiz
- Analyze data with Excel
- Analyze data with MATLAB
- Ask questions
 - about M1D8
 - about all of M1

Last week of M1!



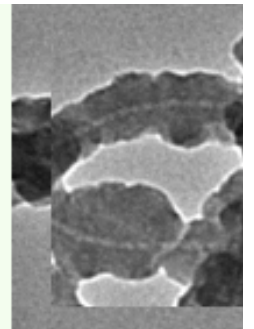
- Lab notebook
 - **M1D1** graded by Jing
 - revise by 10pm tonight
- Protein engineering summary
 - draft due at 5pm on Saturday 03/12
 - **extra office hours:**
 - all instructors in 56-302 Sunday 03/06, 10am-4pm
 - Noreen W 03/09 and R 03/10, 6pm-9pm
 - Leslie W 03/09 and F 03/11, 2pm-5pm
 - Maxine T 03/10 and F 03/11, 9am-11am
 - feedback on 03/17 from Noreen & Diana
 - revision due 03/28
- Mini-presentation
 - due by 10pm on Wednesday 03/16
- Blog post

Reflection assignments

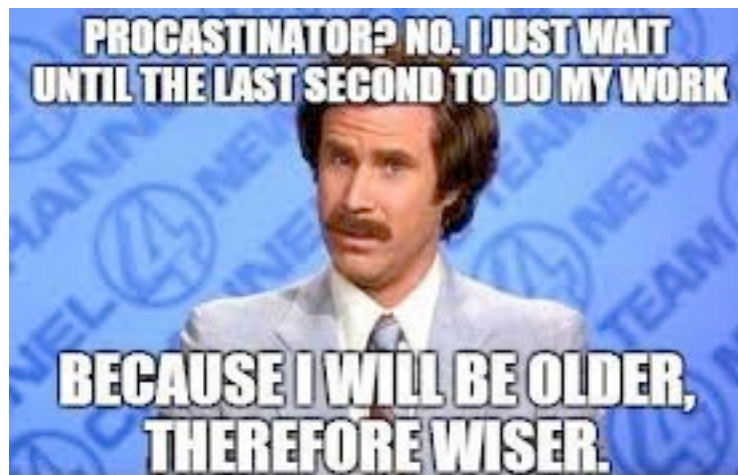


BE 20.109 Class Blog

Welcome to the 20.109 Class Blog! Our 20.109 Blog is here for MIT's emerging cadre of biological engineers from Course 20. The blog is for your thoughts and work and discoveries in our lab fundamentals class. By capturing your collective experiences in the subject, we hope to learn even more about the work we do -- what's working well and where we need to get better. Please see the first blog post for some important administrative information.



- Where? <http://be20109s16.blogspot.com/>
- When? whenever, at least one per module (4-7 total), one by 03/29
- What? There are suggested blog topics but feel free to be creative!
- How? check out <http://be20109f15.blogspot.com/> and note also:
 - do not publish MIT logo
 - do not post photographs with names tagged
 - do not write malicious comments
 - do not plagiarize

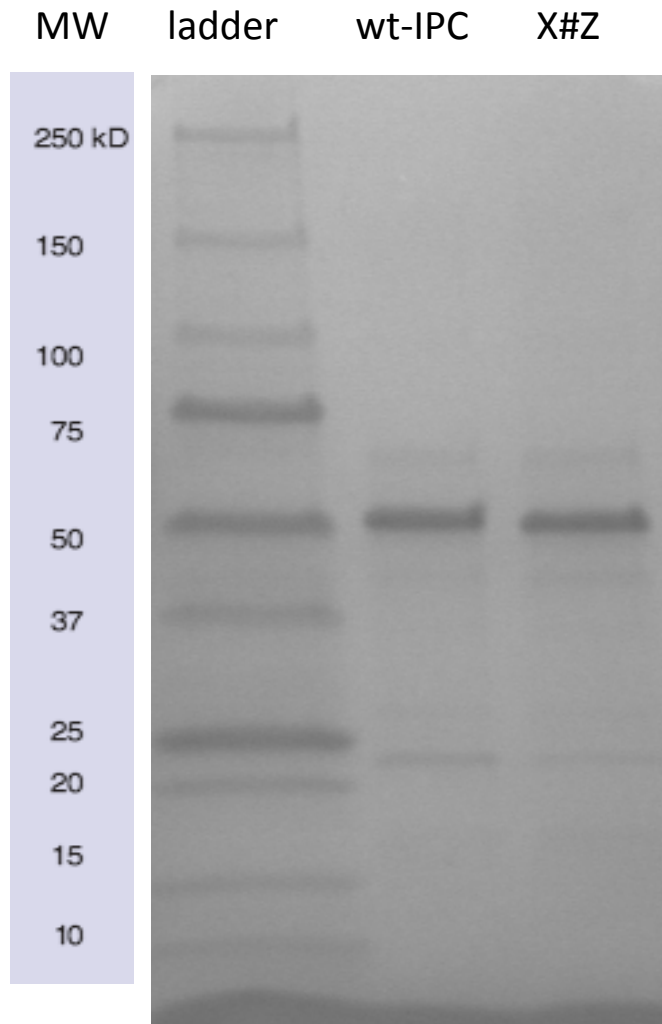


Time Spent Writing Paper



- Five Minute Break
- Time Spent Telling Yourself "Ill do it an a half hour"
- Time Spent "reaserching" Funny Pictures
- Time Spent Planning Excuses For Why The Type is Four Size Too Big
- Time Spent Actually Writing

Estimate protein concentration using microBCA assay or unstained ladder

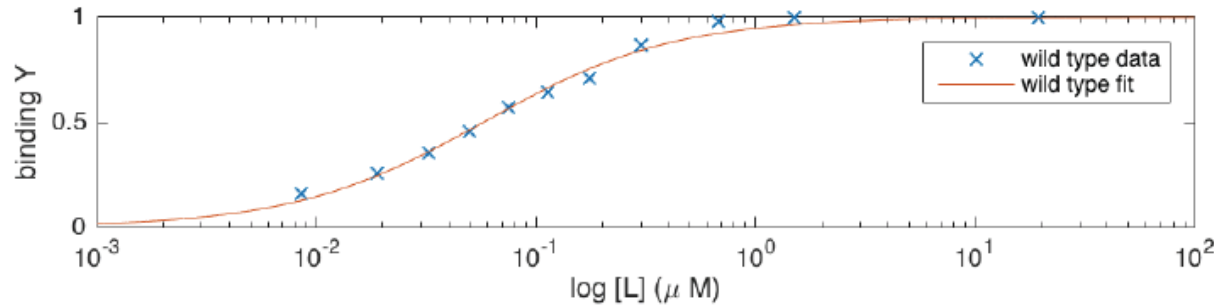


- microBCA assay extrapolation from BSA calibration curve
 - don't forget units and dilutions
- or comparison with unstained ladder
 - 50 kDa band has 750 ng / 10 μ L
 - your wt-IPC is 2 x as bright
 - hence [wt-IPC] = 1500 ng / 15 μ L
 - and [IPC(X#Z)] = 1500 ng / 15 μ L
 - Convert to M (mol/L) using 1 Da = 1 g/mol

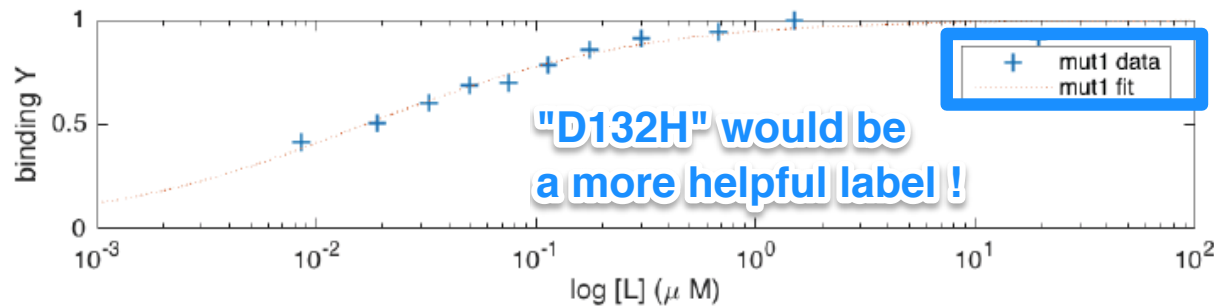
You have the power! – in Matlab

so edit labels

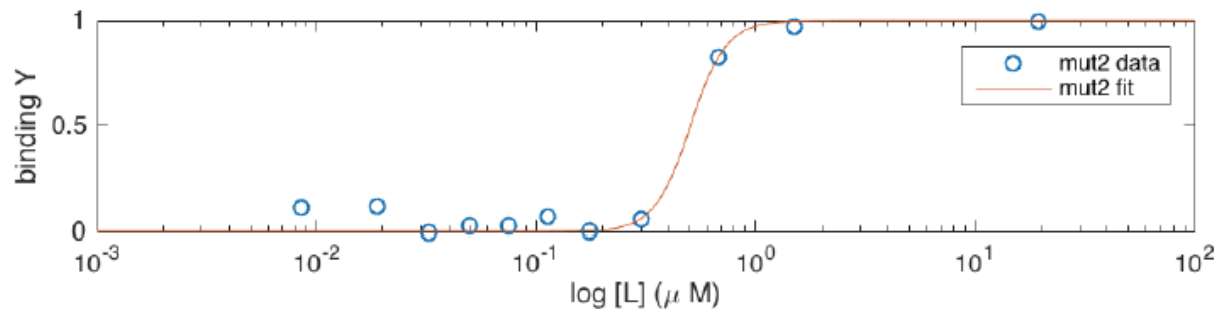
Fit for K_d and n



WT
 $K_d = 0.0578$
 $n = 1.0050$



Mutant 1
 $K_d = 0.0167$
 $n = 0.7001$



Mutant 2
 $K_d = 0.5045$
 $n = 5.3167$

➤ All mutants listed on M1D7 Discussion page

Start your version of the story...

