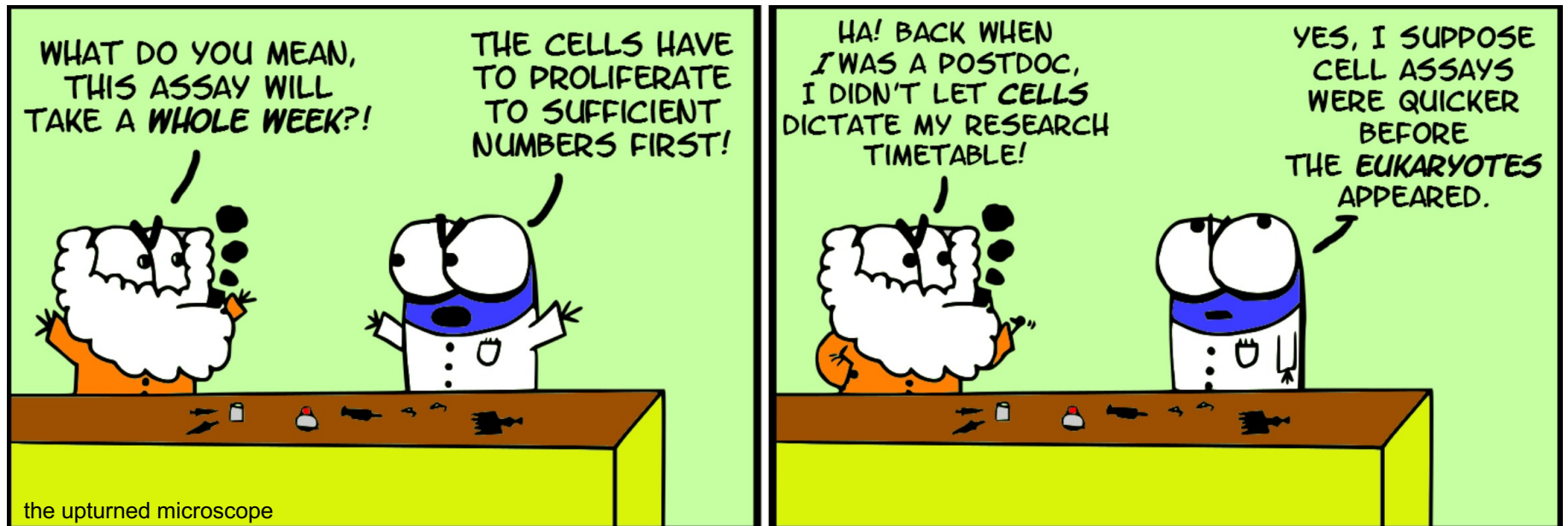


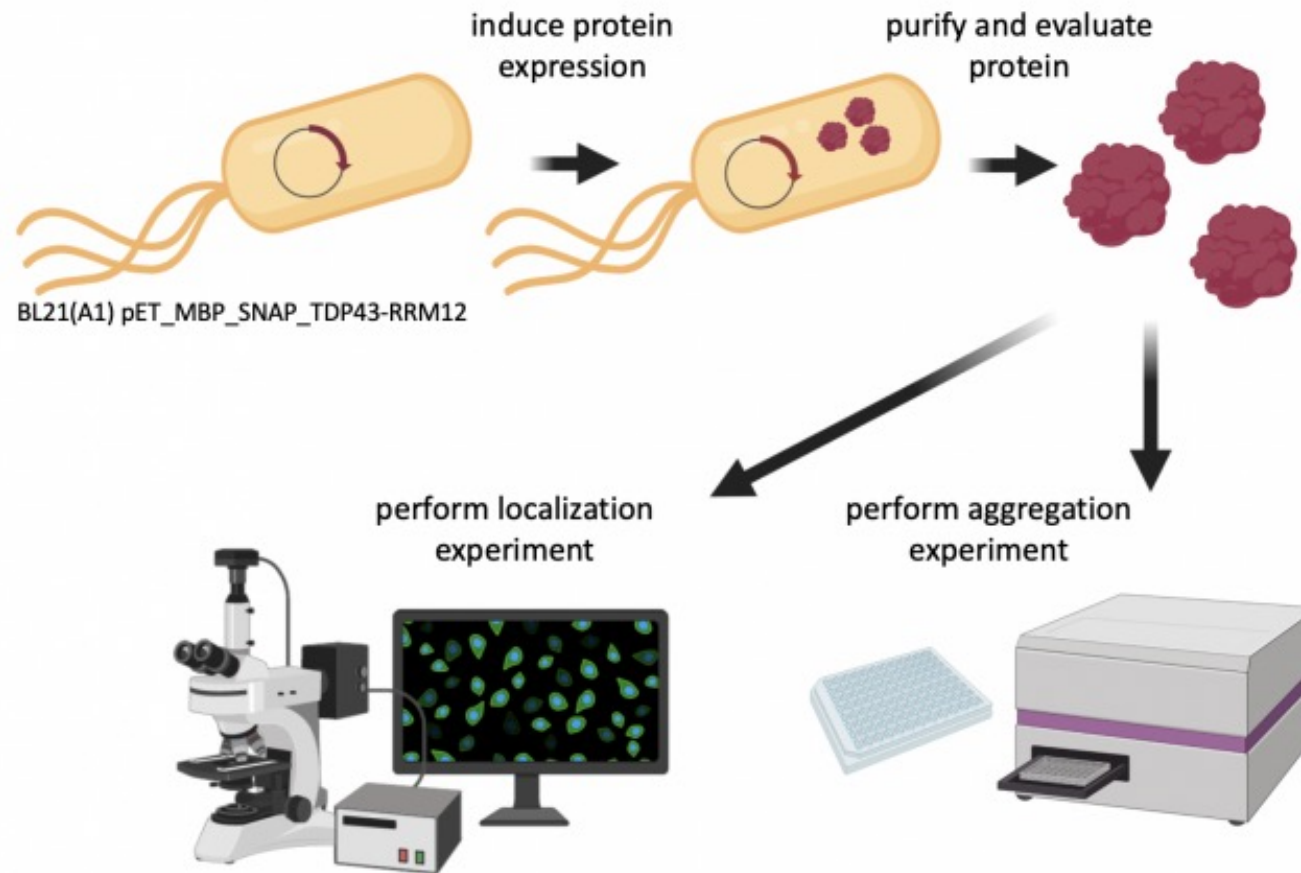
# M1D6: Learn best practices for mammalian cell culture and seed CAD cells for TDP43-localization experiment

1. Prelab discussion
2. Learn about cell culture in the lab
3. Research CAD cell line



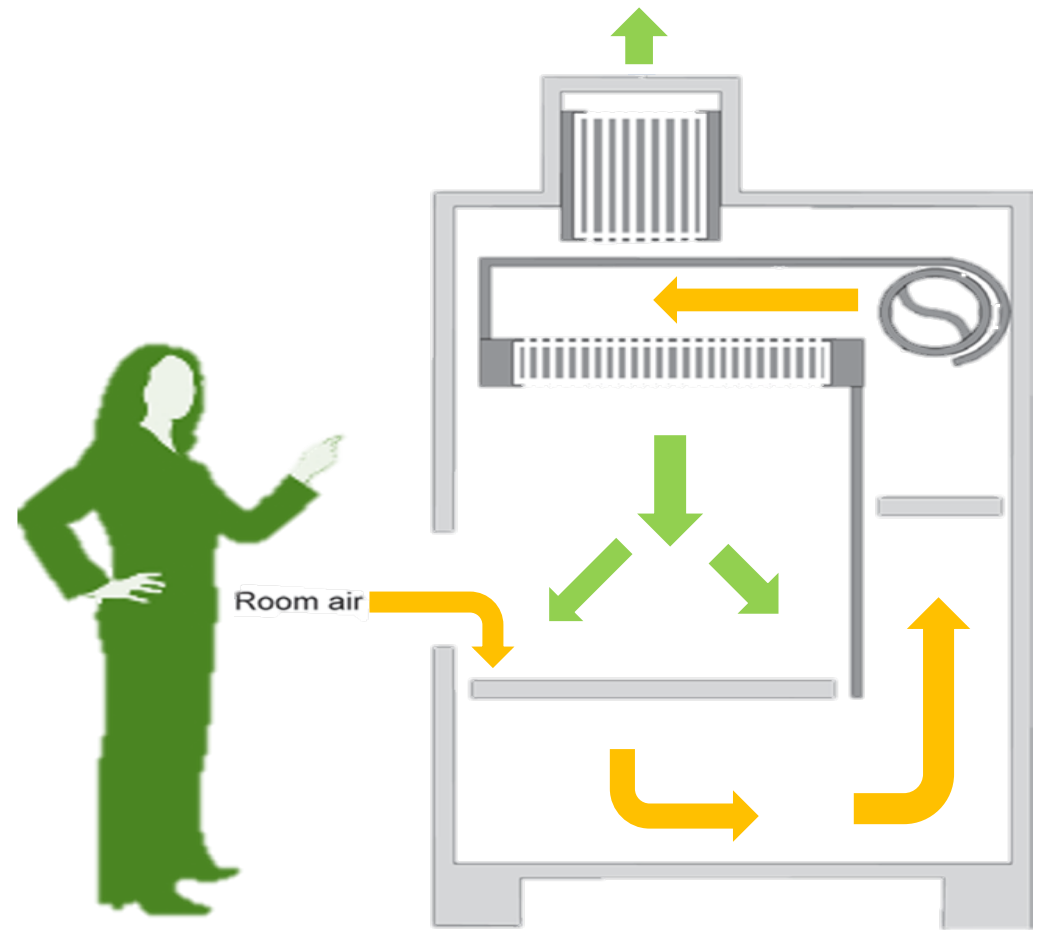
# Overview of Mod 1 experiments

**Research goal: Use functional assays to characterize ligands identified as binders to TDP43 from SMM technology**



# Tissue culture sterile technique

- **70% ethanol** everything:
  - Wipe cabinet before and after use
  - Wipe everything that enters the cabinet
  - Do not spray cells with EtOH
- **Do not disturb air flow:**
  - Do not block grille or slots
  - Minimize side-to-side arm movements
  - Work > 6" away from sash
  - Leave blower *on always*
- Do not talk into incubator!
- Only open sterile media and pipettes in hood



# Mammalian Cell Culture Medium



## Food:

- DMEM/F12 (Dulbecco's Modified Eagle Medium/Nutrient Mixture F-12)
  - Defined



- FBS (fetal bovine serum)
  - Undefined



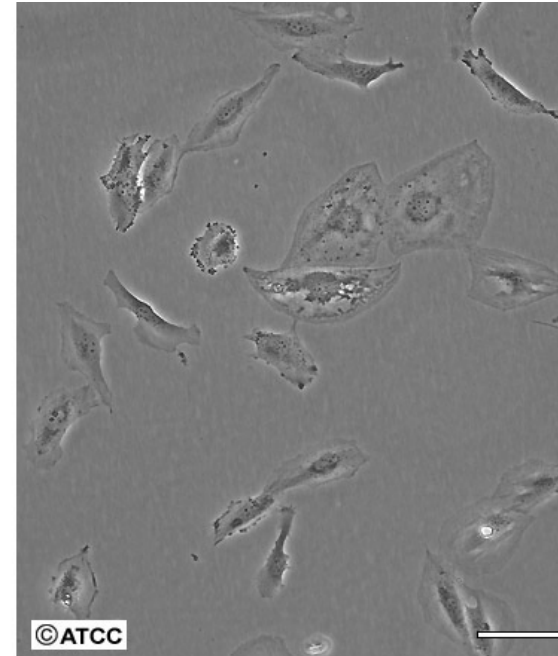
## Non-food:

- antibiotics:
  - penicillin
  - streptomycin

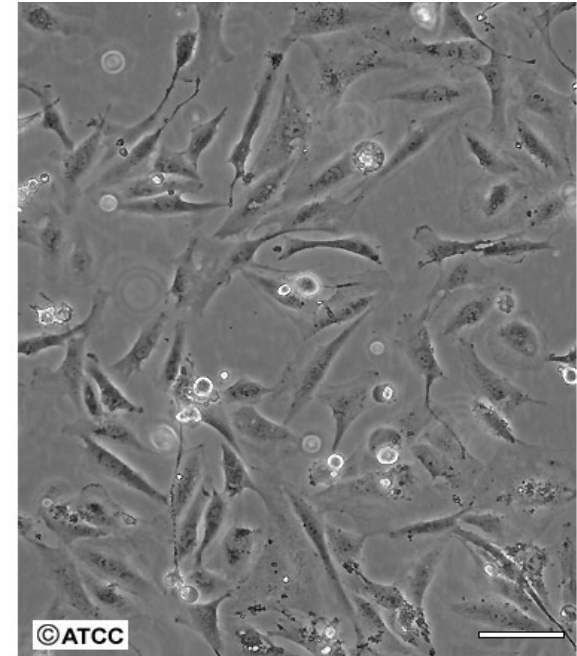
# Mammalian Cell Culture Terminology

- Adherent vs Suspension
- Confluence
- Splitting
- Seeding

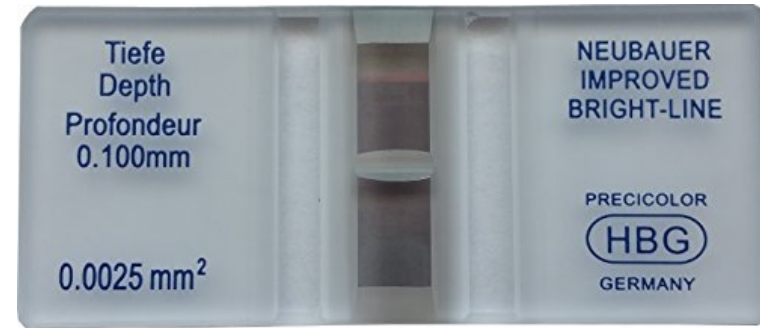
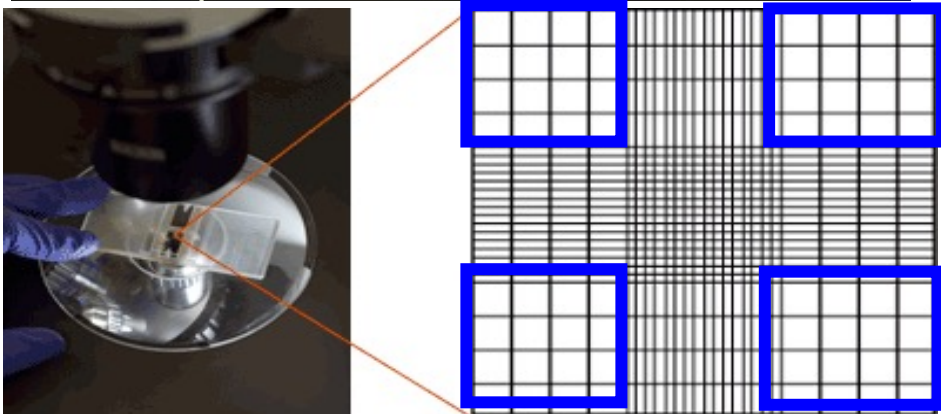
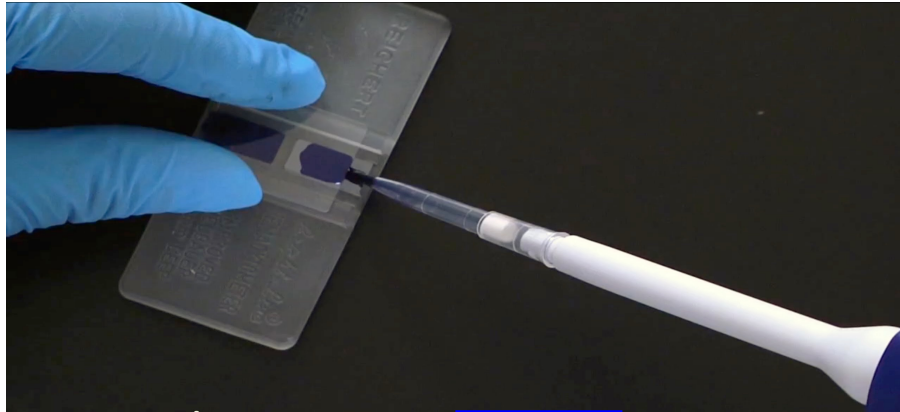
Low Density



High Density



# Counting cells



- Hemocytometer
- Trypan blue

# cells / mL = 10,000 x  
average of 4 corners

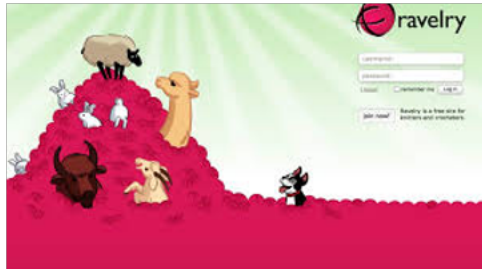


# Notes on experimental schematics...

How does Becky knit a scarf?



Buy beautiful yarn



Choose a pattern



Cast on 25 stitches



Knit



Purl

K & P & K & P

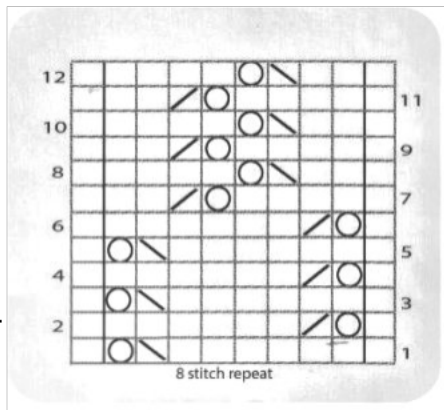
Measure size. It  
doesn't match  
the  
recommended  
gauge



Frog it!



Cast on 40 stitches



Follow the pattern until  
time to cast off



Block scarf to wear

# What should be in the Title and Caption?

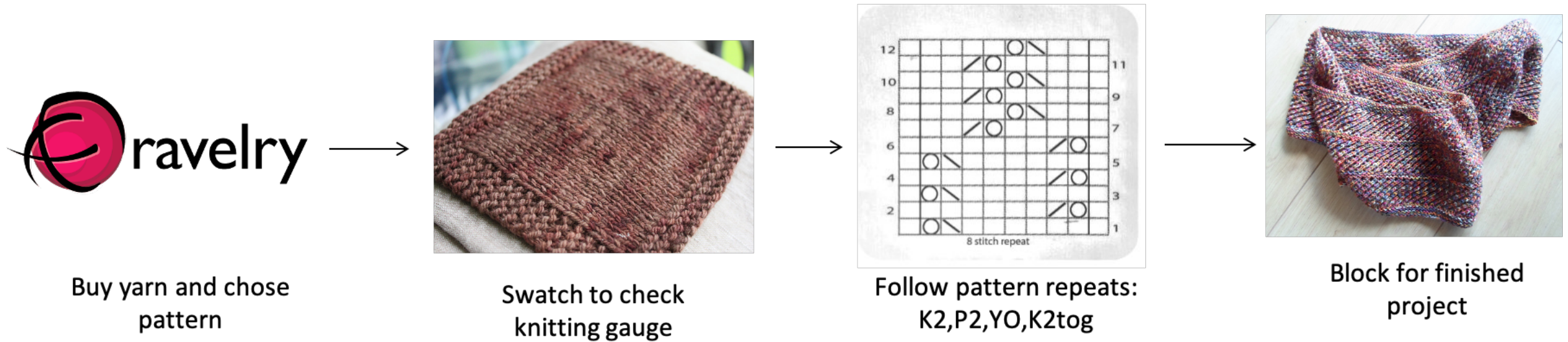
**Title:** State what is shown / represented in the schematic

**Caption:**

- Explain the flow of information using concise / clear language
- Expand on text shown in figure labels to eliminate excess wordiness / clutter from the figure
- Define all abbreviations / jargon / labels / symbols



# Revised example:



**Figure 1: Becky's knitting process produces a functional scarf.** Becky follows a specific protocol to knit a scarf. She choses her yarn and checks the pattern before following the written pattern and blocking to complete the project. K2= knit two, P2= purl 2, YO= yarn over, K2tog= knit two together

## For today:

1. Practice cell culture and seed cells for localization assay  
**White, Gray, Purple, Teal** teams to TC first!
2. Research CAD cell line
3. Work on Data Summary in downtime
  1. Homework for M1D7
  2. Background and Motivation section

## For M1D7:

- With your lab partner create an experimental overview schematic of the purification process for TDP43-RRM12
  - This is a figure and should have a title and caption

# Protein purification Data Slide

- What you turned in today!
- If you had difficulty identifying a band in your protein elution and would like additional data, we have a Western blot of the elution and flow through
- Used an anti-His primary antibody with an HRP-conjugated secondary antibody for detection

