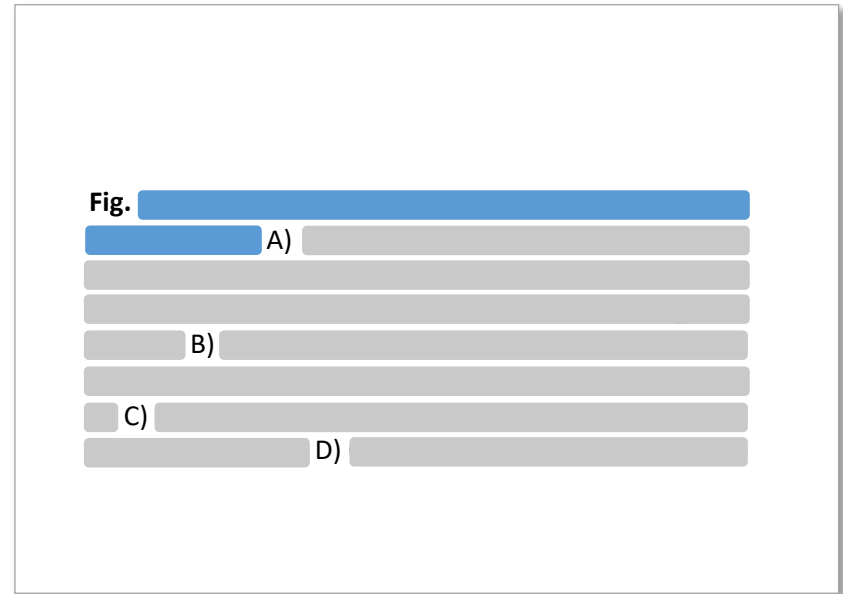
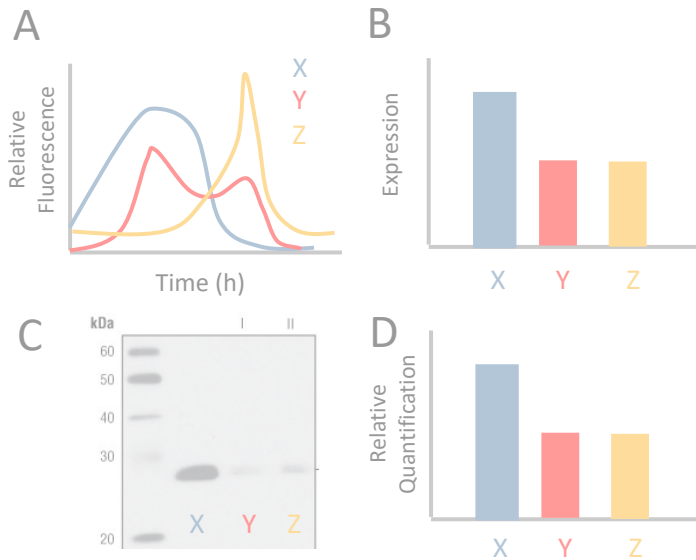


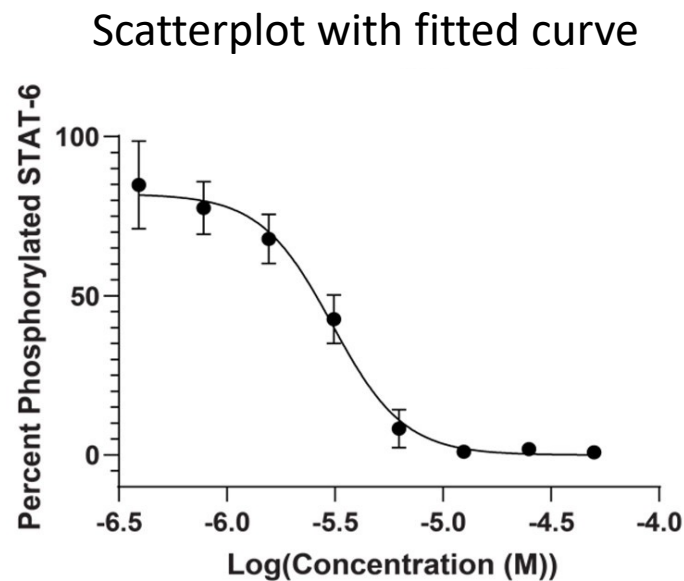
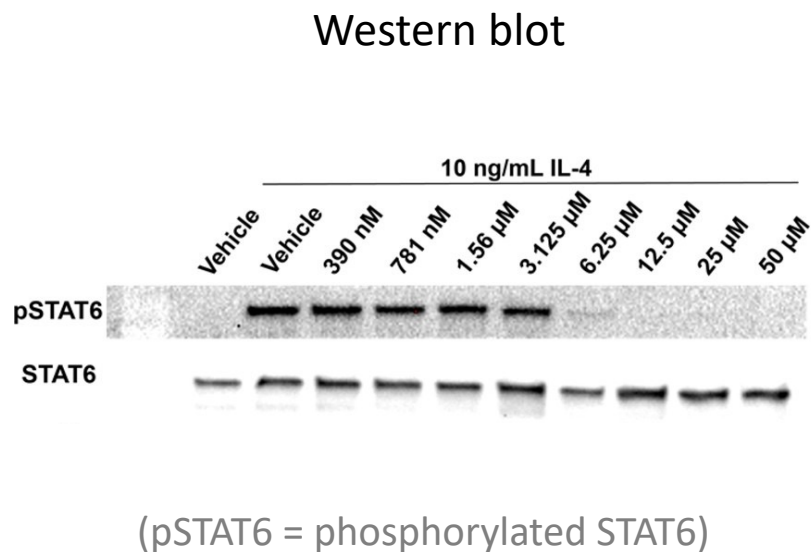
# Figure Captions

## 20.109 Communication Workshop 2



## REFLECT & DISCUSS

Same data, two different plots—why might you choose one or the other?



What additional details do you need to understand these plots?

# Today's agenda:



Figure captions and titles

High-level descriptions and overall conclusions

Work in pairs to revise figure captions

Leave with revised captioned figure based on feedback

Start thinking about organizing figures as part of narrative

Planning ahead for data summary

# All figures have four key elements

1. Choice of data
2. Presentation choices

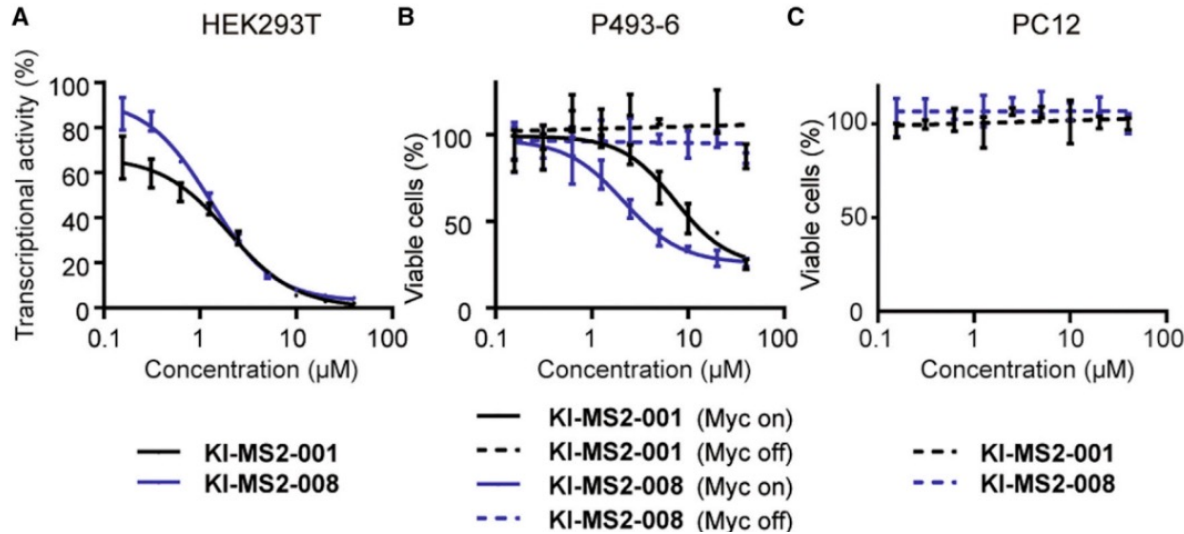
## 3. Title

- take-home **message**
- states what conclusion the **reader should evaluate** when looking at the figure

## 4. Caption

- **descriptive**, not explanatory/interpretive
- only enough method detail to make it clear how results were obtained
- all types of figures should have captions

Your title should highlight your figure's take-home message



## Title

- Take-home message
- What conclusion should the reader evaluate when looking at the figure?

Figure 2.

**KI-MS2-001 and KI-MS2-008 Modulate Myc-Driven Transcription in Cells and Inhibit Viable Cell Levels in a Myc-Dependent Manner**

# Effective titles state a conclusion

What did you find? So what?

Avoid overly vague and short or excessively long and detailed titles

Focus on a message about what you found, not what you did

Put the main subject you want to emphasize at the **beginning**

Titles are framed for your audience

Let's take a look at this title

**Stabilization of the Max Homodimer  
with a Small Molecule Attenuates  
Myc-Driven Transcription**

**What do you notice about this title?**

# What if the title was:

## Attenuation of Myc-driven transcription

describes an action ( “attenuation”) but not the actor (how is this being achieved?)

unclear what the main message / claim is



# Perhaps this would be better?

Attenuation of Myc-driven transcription

Screen to find small molecule that attenuates Myc-driven transcription

describes the objective (“screen to find..”) but not the outcome of that screen

reader can't tell from title whether the search was successful or not

# What about this one?

Attenuation of Myc-driven transcription

Screen to find small molecule that attenuates Myc-driven transcription

Small molecule attenuation of Myc-driven transcription by Max homodimer stabilization

similar to published title, but perceived main topic (info @ beginning of sentence) is different

passive voice (“attenuation...by”) rather than active voice (“attenuates”)

Effective captions give just enough info for the reader to understand **how the data was generated**

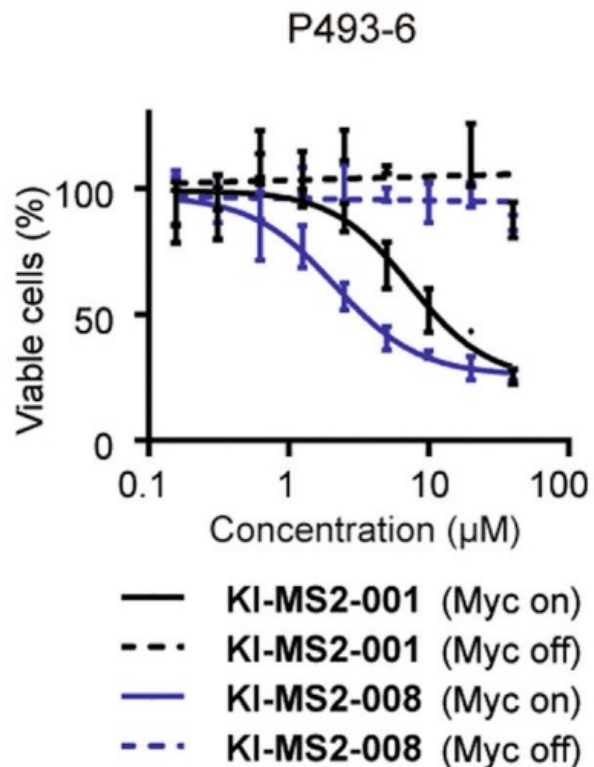
Let's look at a few examples...

As you evaluate the examples, consider:

- **could the figure stand alone** and still be mostly understood without the caption text?
- what **extra context** is provided by the caption, and how does it **help your understanding** of the figure?
- what is the **level of methods detail** being used in the caption?

# Effective captions give just enough info for the reader to understand **how the data was generated**

*Example 1 of 4*



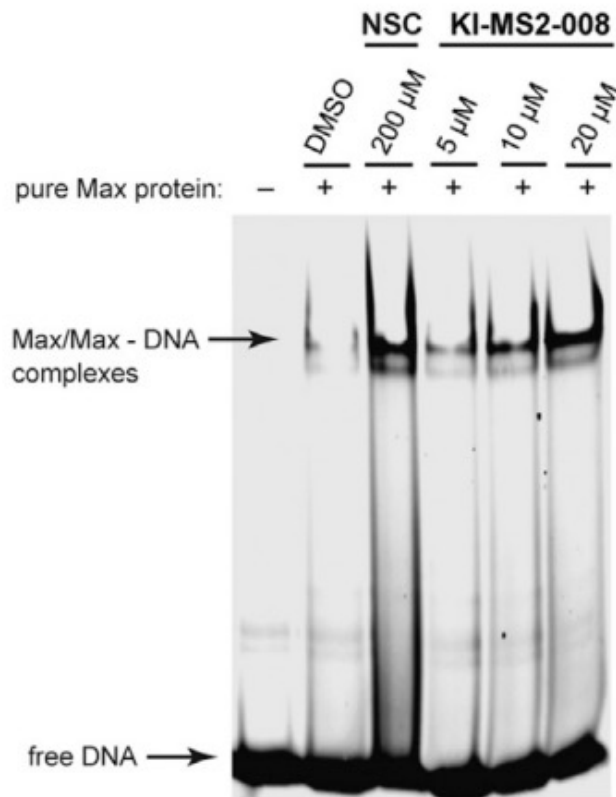
**Figure 2.**

**KI-MS2-001 and KI-MS2-008 Modulate Myc-Driven Transcription in Cells and Inhibit Viable Cell Levels in a Myc-Dependent Manner**

(B) Dose-response curves for P493-6 viable cell levels in response to KI-MS2-001 or KI-MS2-008 treatment with Myc expression left on or shut down with doxycycline after 3 days (n = 3 technical replicates, error bars represent mean ± SD).

# Effective captions just enough info for the reader to understand **how the data was generated**

*Example 2 of 4*



**Figure 4.**

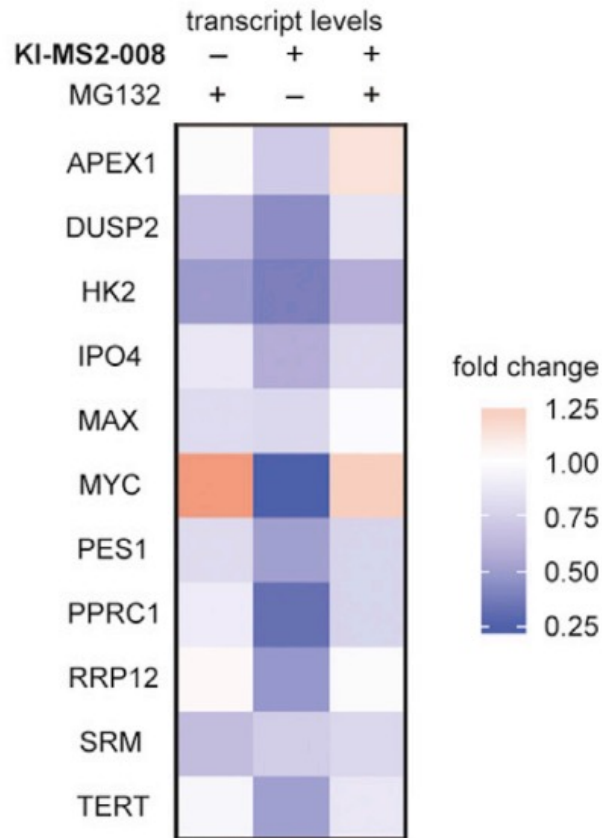
## **KI-MS2-008 Induces Max/Max Homodimerization**

(B) EMSA[\*] involving pure recombinant Max protein binding to Alexa Fluor 684-labeled E-box DNA incubated with NSC13728 or KI-MS2-008.

*\*acronym defined earlier in caption ("Electrophoretic mobility shift assay (EMSA)")*

# Effective captions give just enough info for the reader to understand **how the data was generated**

*Example 3 of 4*



**Figure 5.**

## **KI-MS2-008 Decreases Myc Protein Levels and Affects the Global Myc Transcriptional Program**

(F) Heatmap showing fold changes in Myc-driven genes in response to 10 mM KI-MS2-008, 10 mM MG132, or the combination at 4 h as determined by qPCR (n = 3 technical replicates).

# Effective captions give just enough info for the reader to understand **how the data was generated**

Example 4 of 4

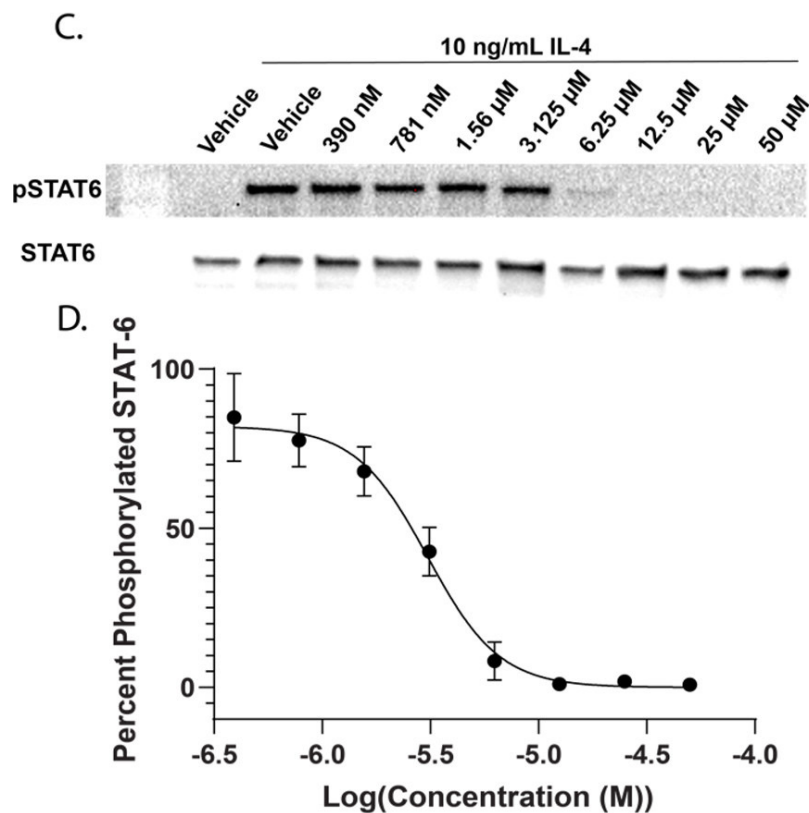


Figure 3.

Cell-based IL-4 inhibition in HEK-Blue IL-4/IL-13 and THP-1 monocyte cells.

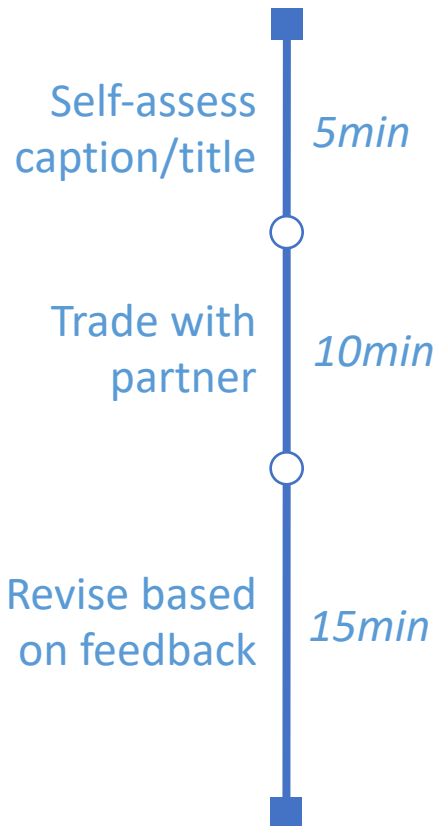
(C) Western blot of pSTAT-6 to STAT-6 after treatment with IL-4 and **52** [\*], normalized to STAT-6.

(D) Quantification of pSTAT-6 from C.

*\*defined elsewhere as compound 52*

## ACTIVITY – 30 minutes

# Working with a partner, revise your draft caption/title for your figure



What is the take-away conclusion?

What minimal additional detail is needed for the reader to understand how you got your data?

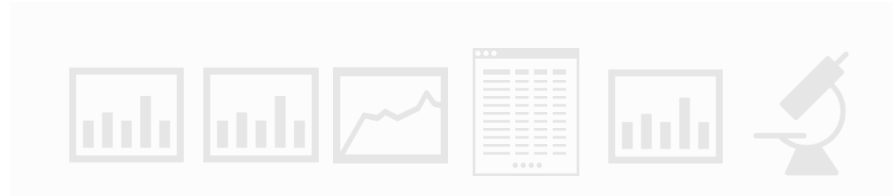
Remember:

- be concise and quantitative
- everything in the figure must be mentioned in the caption (and the text!)



# Your data acts to support an overall storyline

Rearrange until you've created a **logical series** of data.

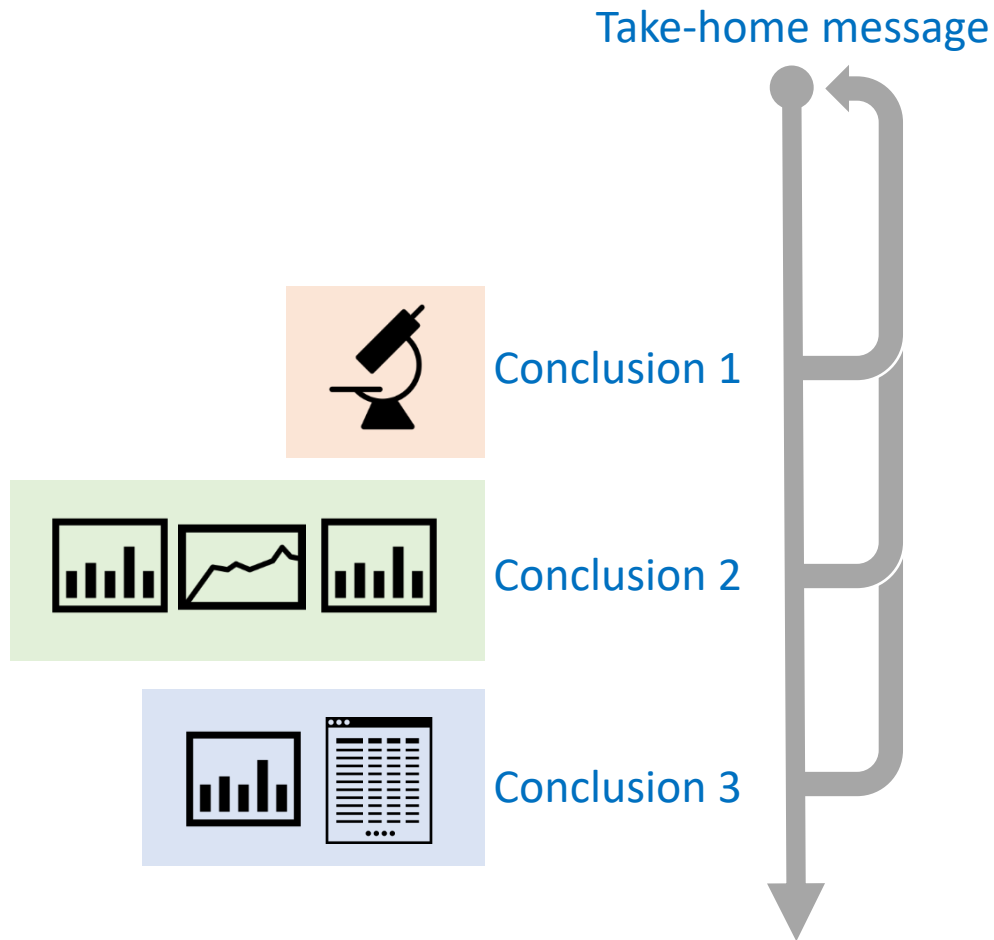


Identify **modules** that correspond to **conclusions**.



# Organize figures as steps within your storyline

Identify **modules** that correspond to **conclusions**.



# Next steps

- slides and additional resources posted on the wiki (“Communication” tab)
- as you work on figures for the data summary, think about how each functions in the larger storyline
- next workshop: summarizing this storyline through the abstract and paper title

# Acknowledgements

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