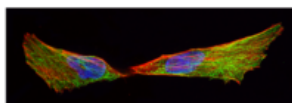


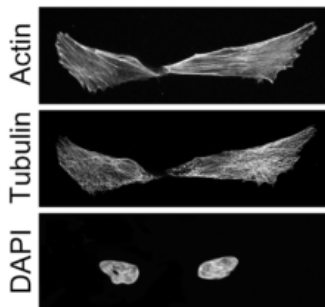
Design and modify figures with **Accessibility** in mind:

- **Accessibility:** *Providing accommodations* so a person with a disability can complete tasks in a similar amount of time and with a similar level of effort as someone that doesn't have a disability.
- When designing figures accommodations should be made for people with color vision deficiency (CVD) which affects ~1 in 12 men and 1 in 200 women worldwide. CVD results in the inability or difficulty in differentiating colors. Types of CVD include:
 - Red-Green: inability to differentiate Red and Green
 - Deuteranomaly
 - Protanomaly
 - Protanopia
 - Deuteranopia
 - Blue-Yellow: inability to differentiate Blue and Yellow
 - Tritanomaly
 - Tritanopia
 - Achromatopsia: inability to differentiate colors
- **Examples:** <https://www.ascb.org/science-news/how-to-make-scientific-figures-accessible-to-readers-with->

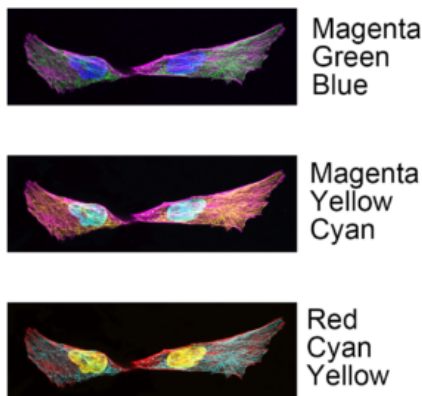
DON'T
Use red and green pseudocoloring
in the same image



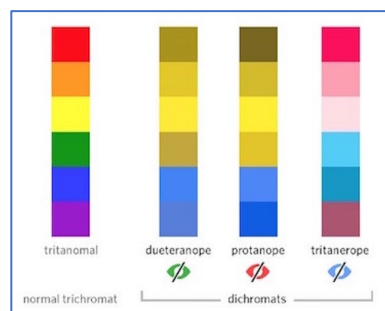
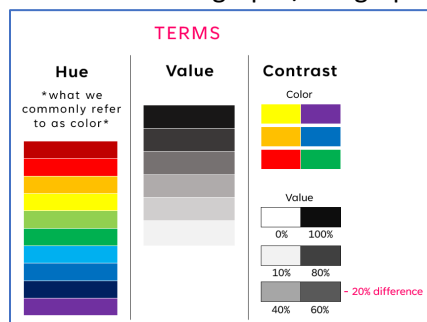
DO
Show greyscale images
of each channel



DO
Use colors in merged images that
can still be distinguished by people
with red/green color-blindness



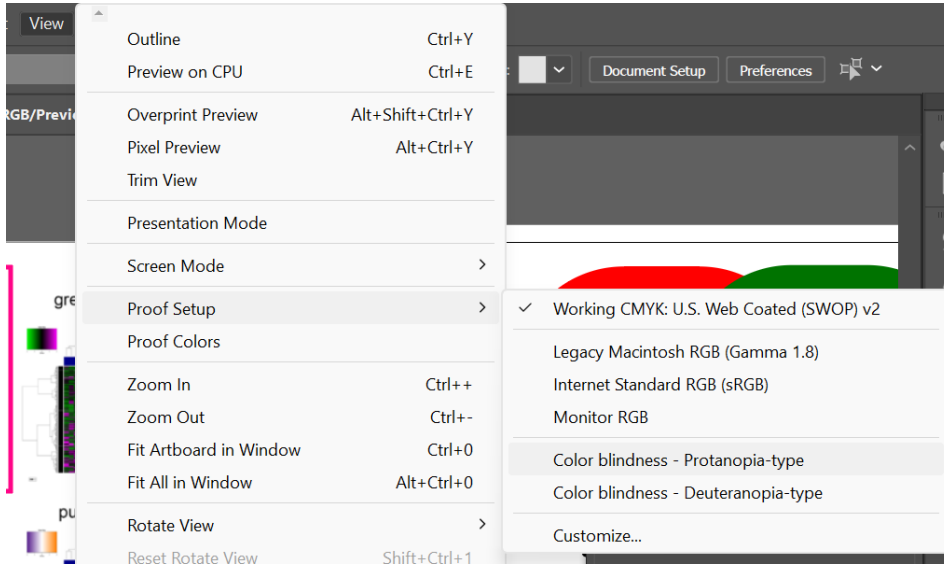
- **Accommodations:**
 - Don't only rely on color to convey a message
 - Use a combination of color+ value, labels, and symbols
 - Limit the color palette to 2 or 3 colors
 - Use patterns and textures to show contrast
 - Carefully select contrasting color + value combinations
 - Avoid bad color combinations
 - Differentiate bar graphs/line graphs using shapes as points



Directions in Adobe Illustrator:

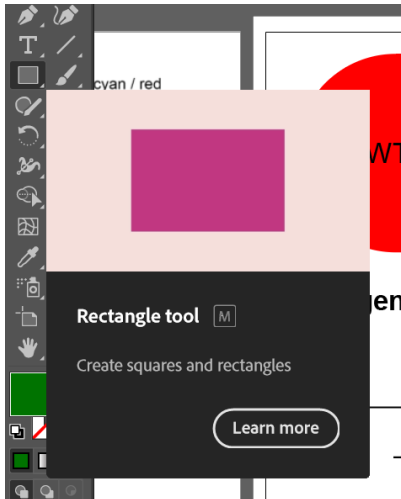
Step 1: Check for Colorblindness Accessibility by evaluating color choice:

1. Select View
2. Select "Proof Setup"
3. Select "Color Blindness type" – be sure to check your figure in both color blindness types
4. To return to normal view select "Working CMYK" or "Monitor RGB"

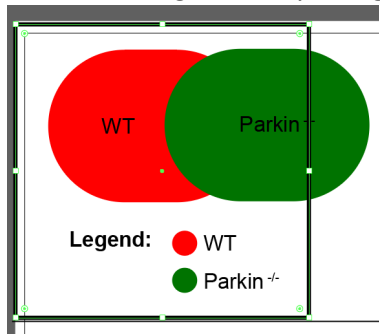


Step 2: Check for Colorblindness Accessibility by evaluating contrast:

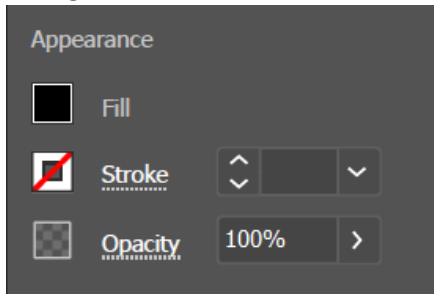
1. Select rectangle tool



2. Draw a rectangle above your figure



3. Change fill color to black



4. In “transparency settings” change “Normal” to “Color” – this will help you view the level of contrast between values. Aim for a 20% difference in value between separate components.

