

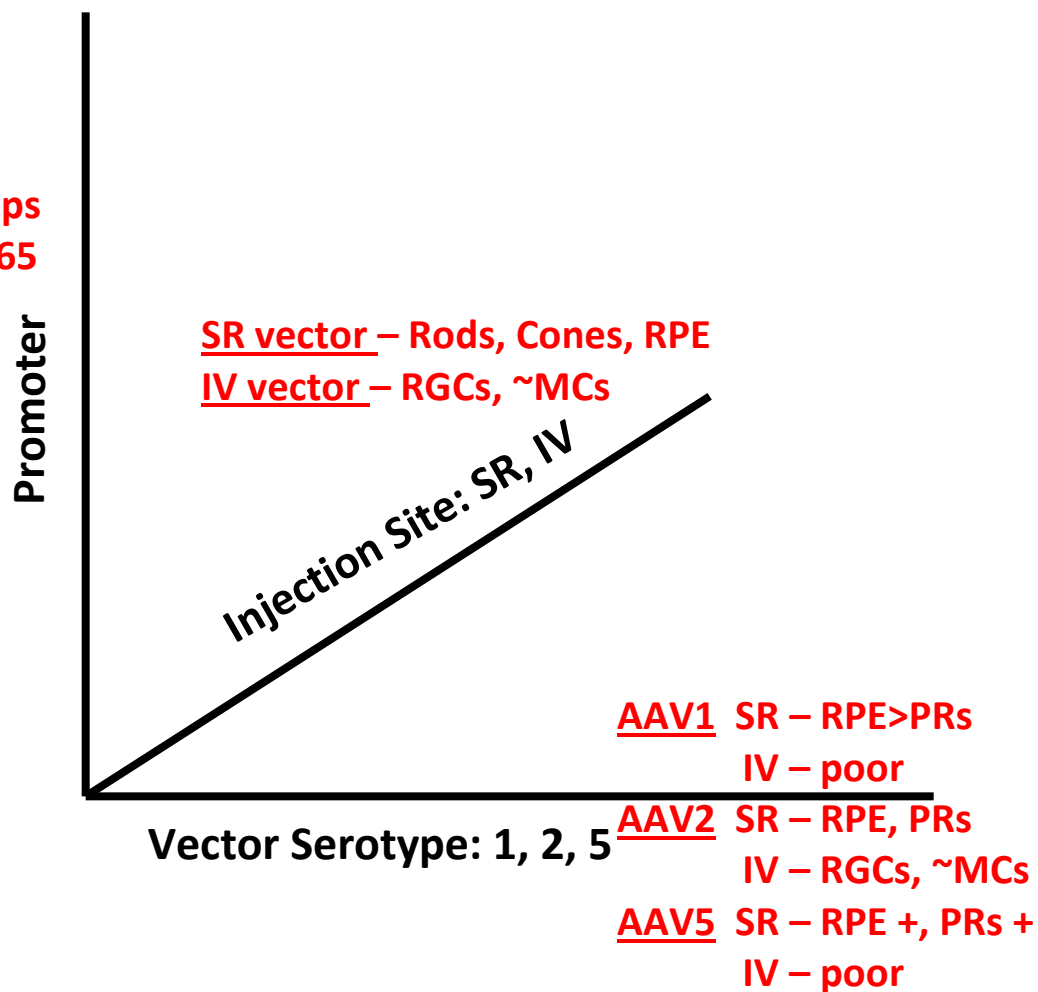


# **AAV vector considerations for the retina**

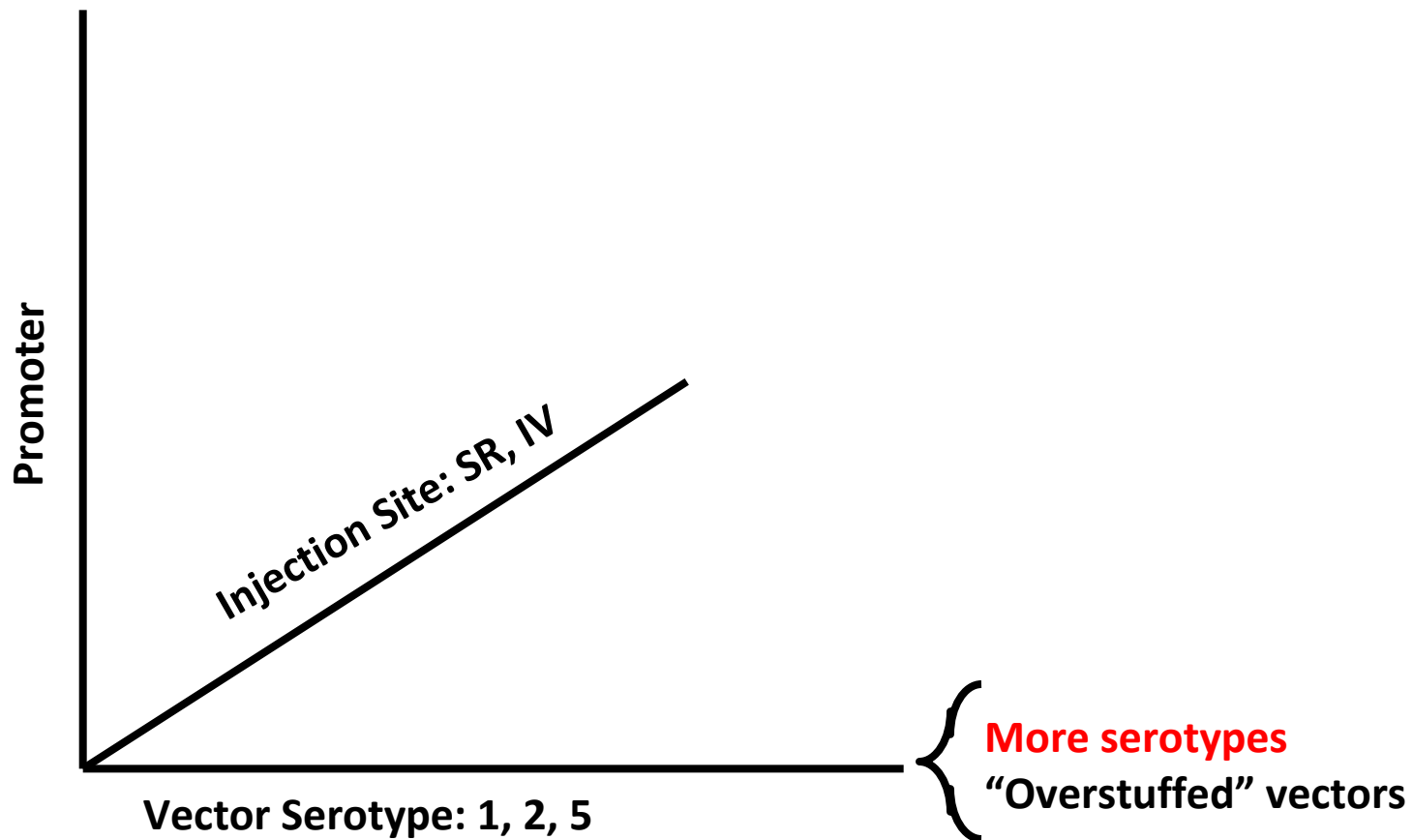
**William Hauswirth  
University of Florida**

# Independent AAV Vector Variables (2005)

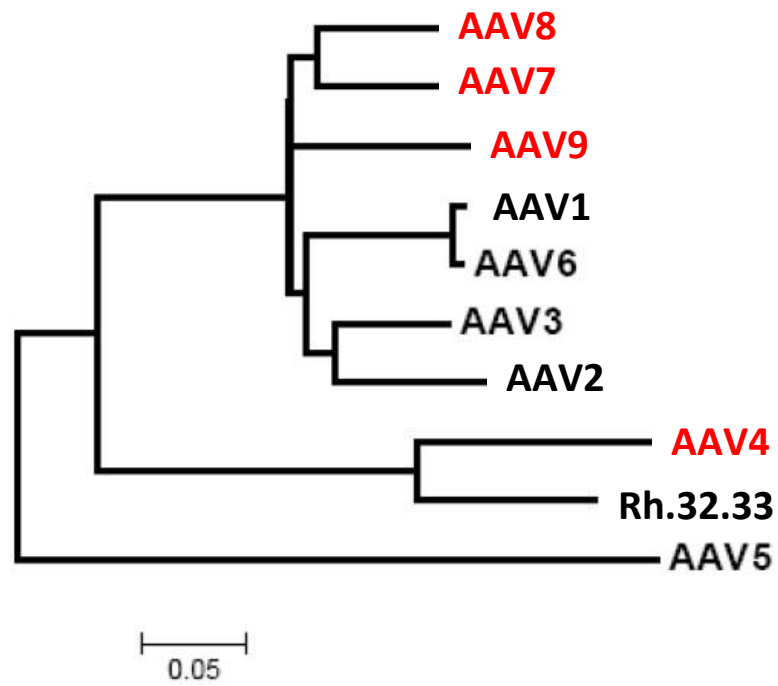
Rods – mOps, RK  
Cones – hROps, hBOps  
RPE – hVMD2, hRPE65



## Independent AAV Vector Variables (2008)



## Phylogenetic Tree of Human AAV Serotypes



Calcedo et al., 2009

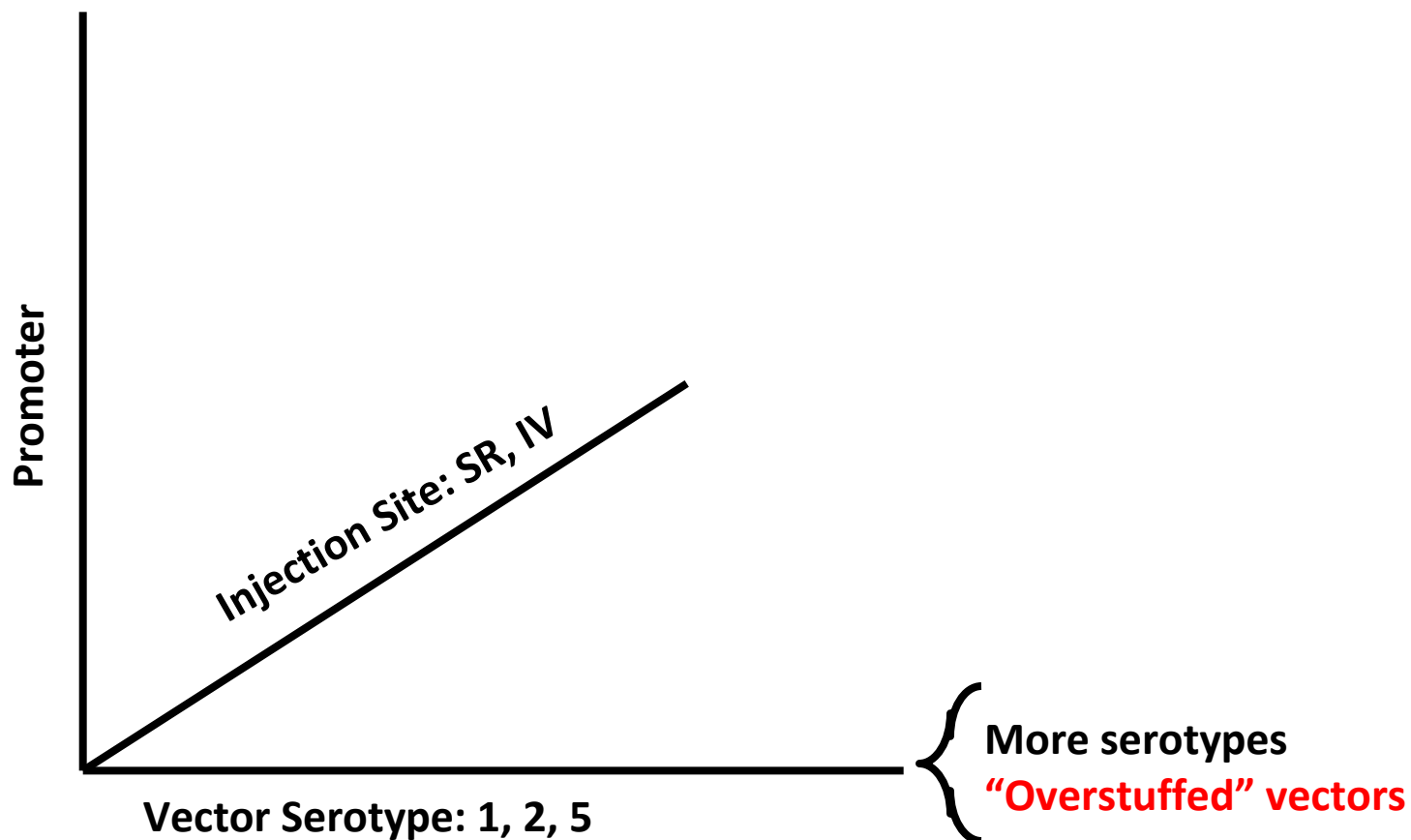
## Serotype

## Preferred Tx (CBA Promoter)

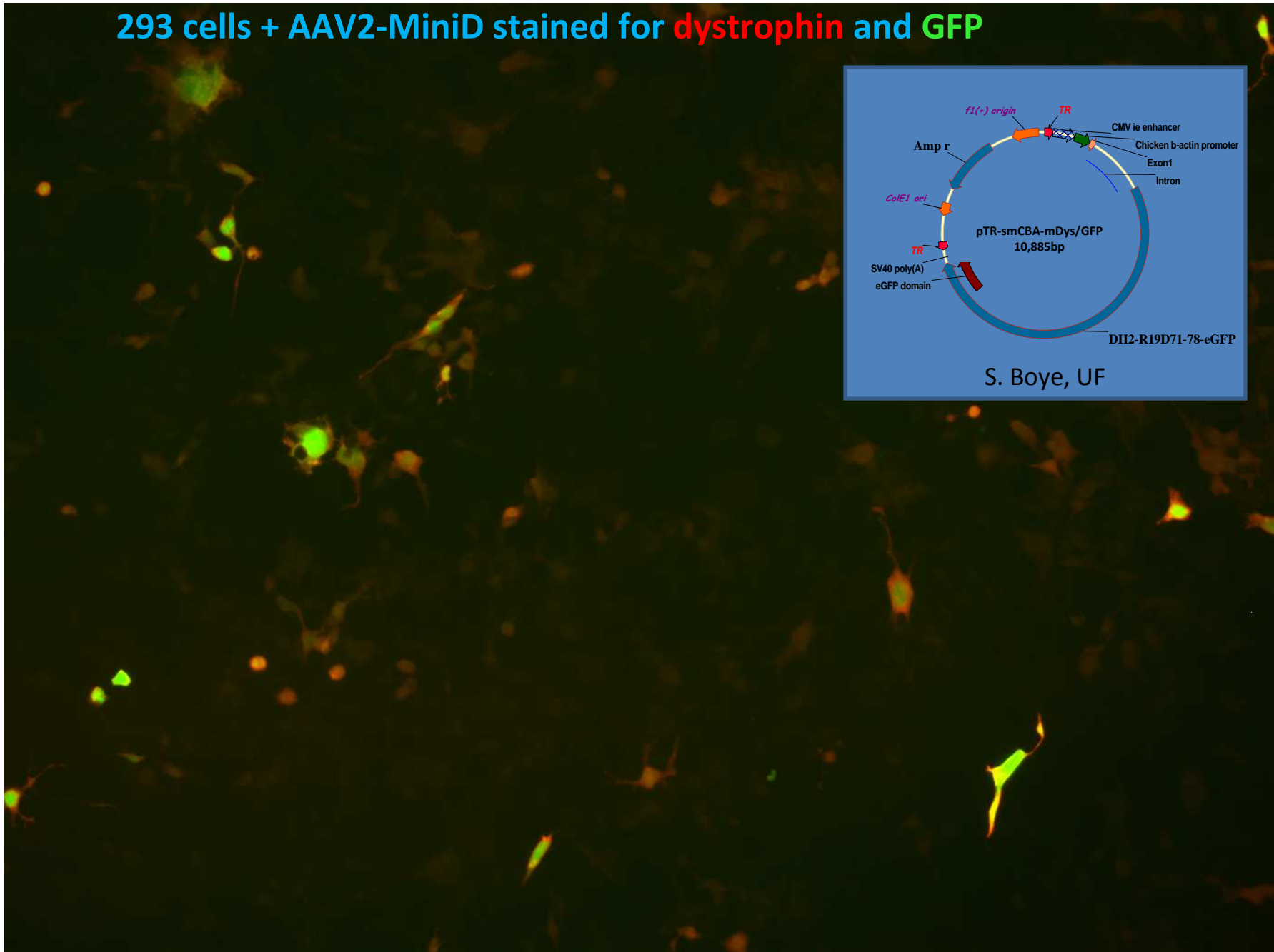
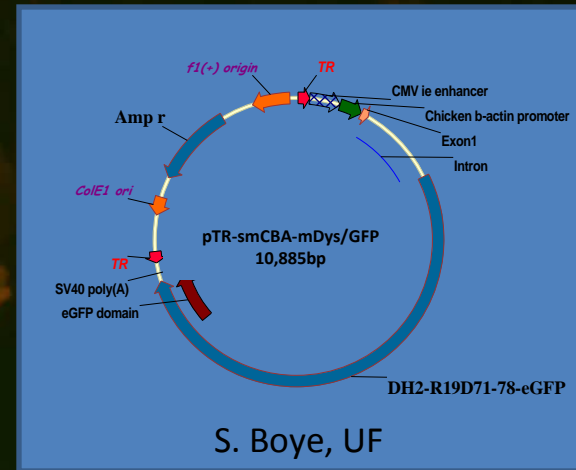
1	RPE>PR
2	PR, RPE, RGC*
5	PR+, RPE+
4	RPE>PR
7	PR, RPE
8	PR++, RPE++, RGC*, ~MC*
9	PR++, RPE++, RGC*, ~MC*

\* Intravitreal vector

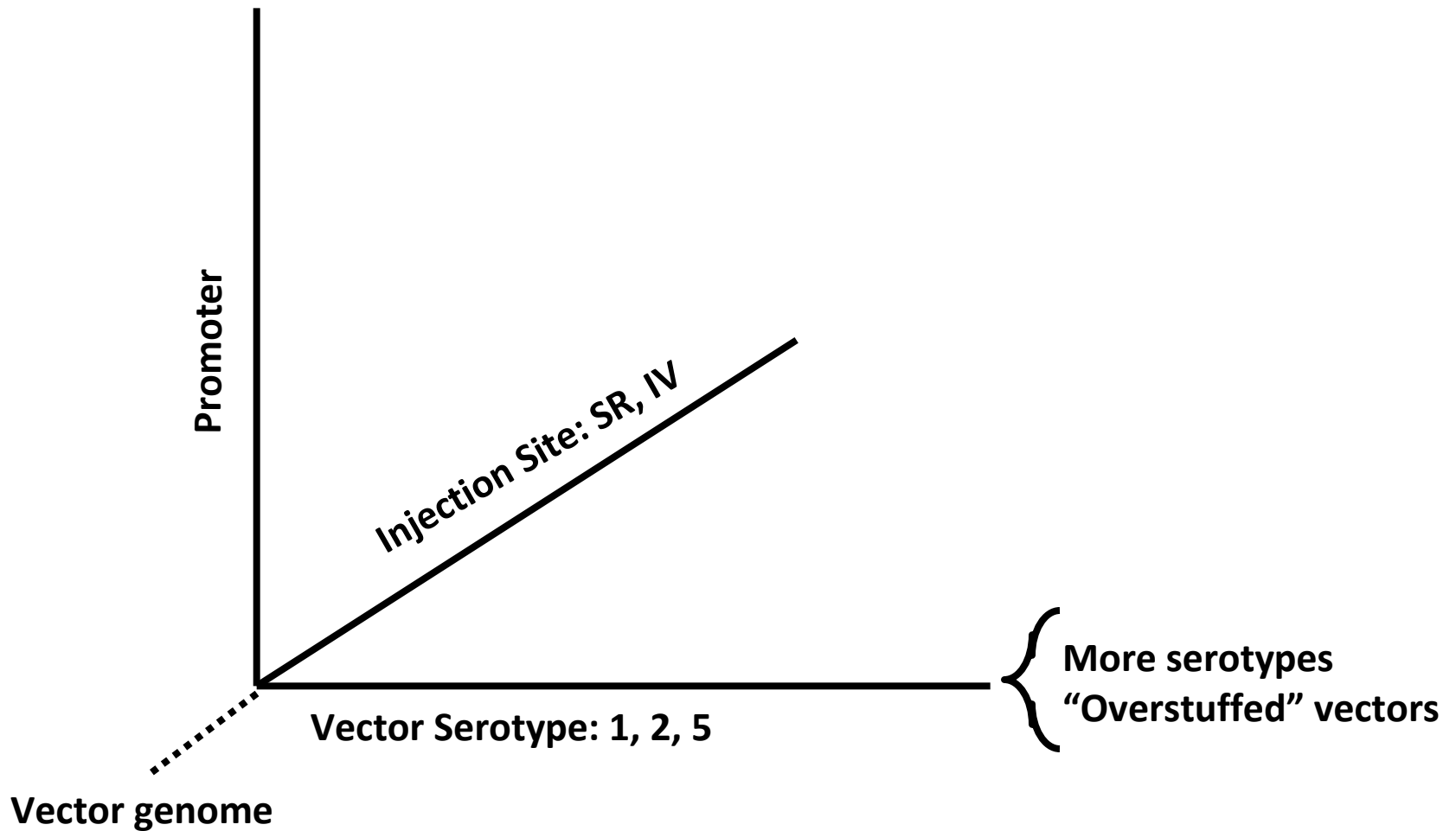
## Independent AAV Vector Variables (2008)



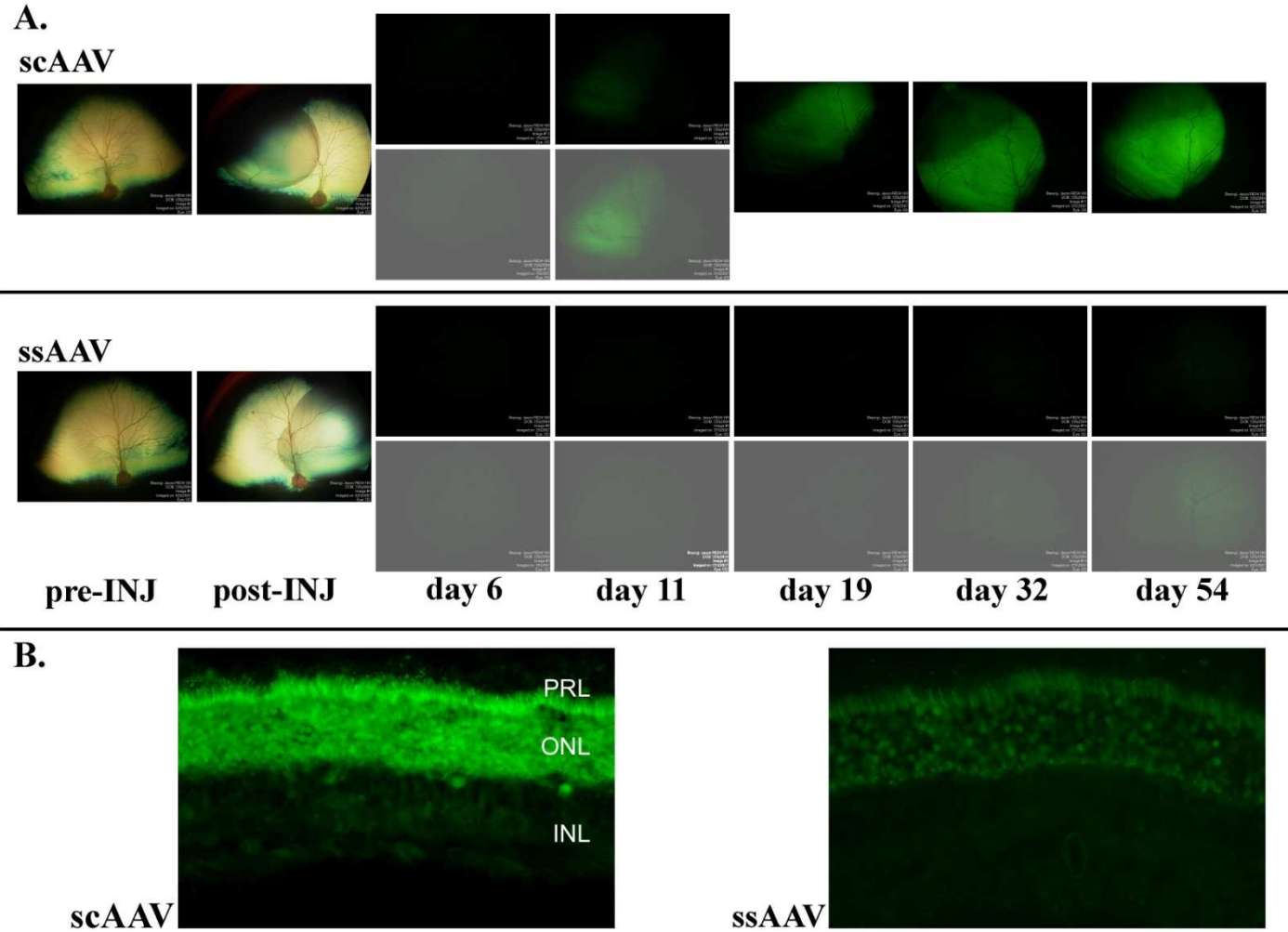
293 cells + AAV2-MiniD stained for dystrophin and GFP



# Independent AAV Vector Variables (2008)



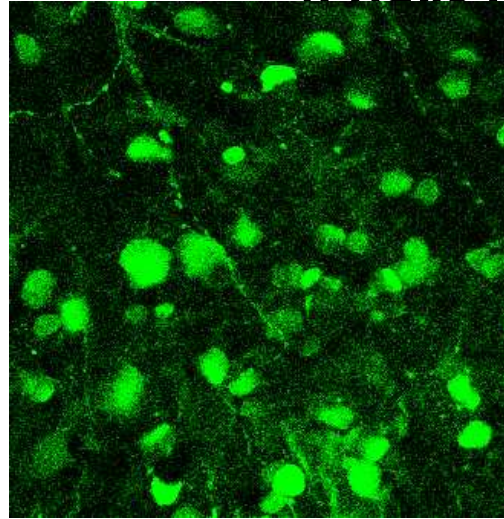
# Self-complementary vs. conventional subretinal AAV5-CBA-GFP in the dog



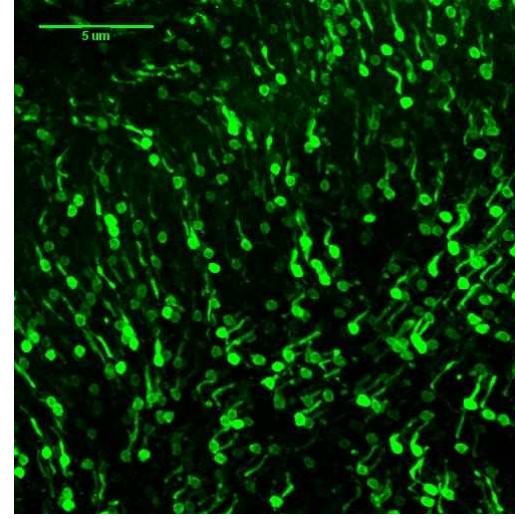
# Self-complementary vs. Single-stranded AAV2-CBA-GFP

4 days post-injection

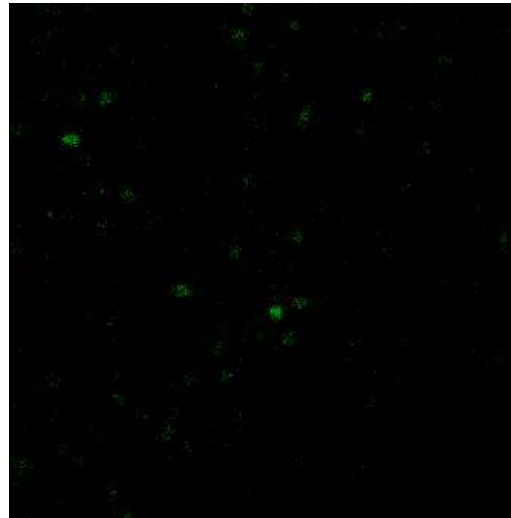
sc Vector  
intravitreal



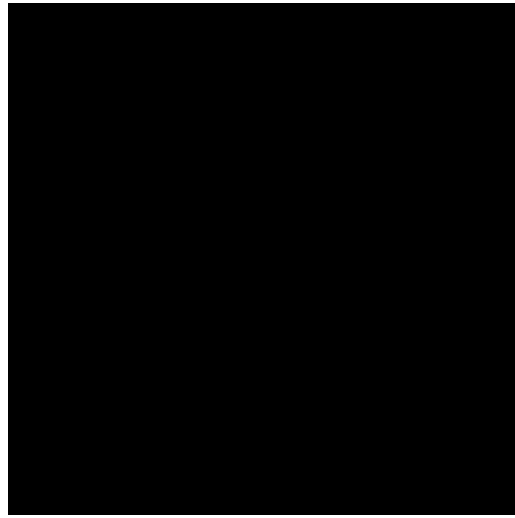
sc Vector  
subretinal



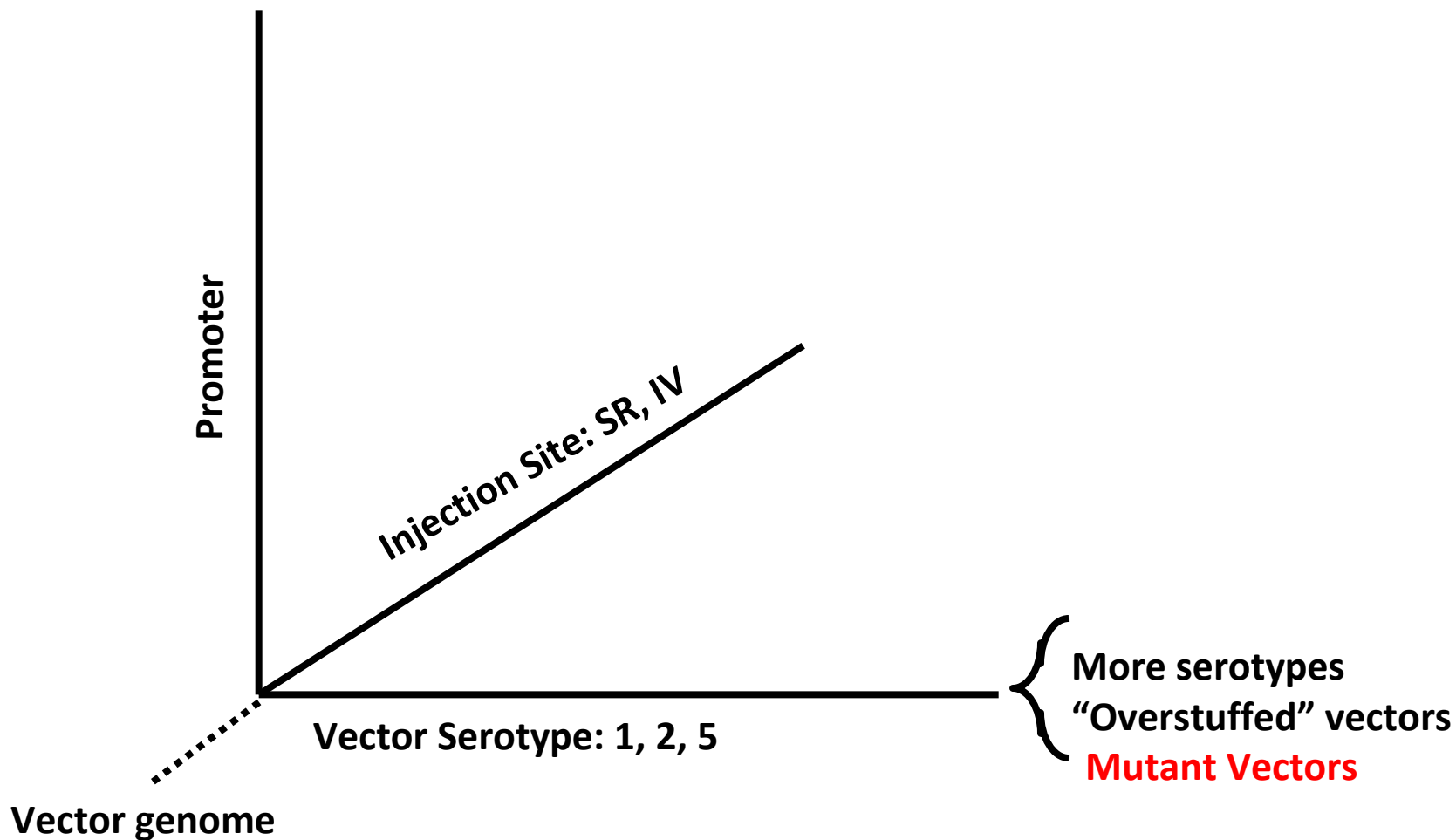
ss Vector  
intravitreal

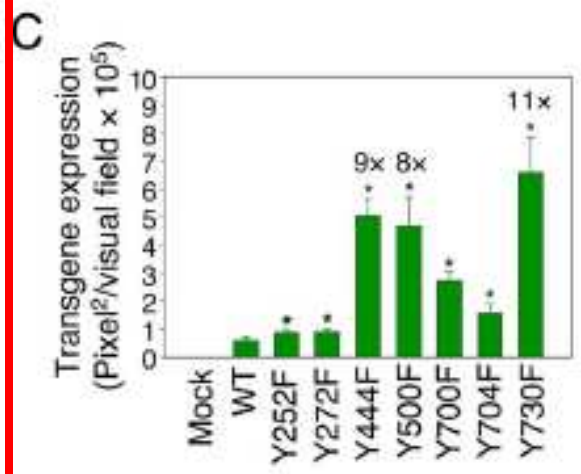
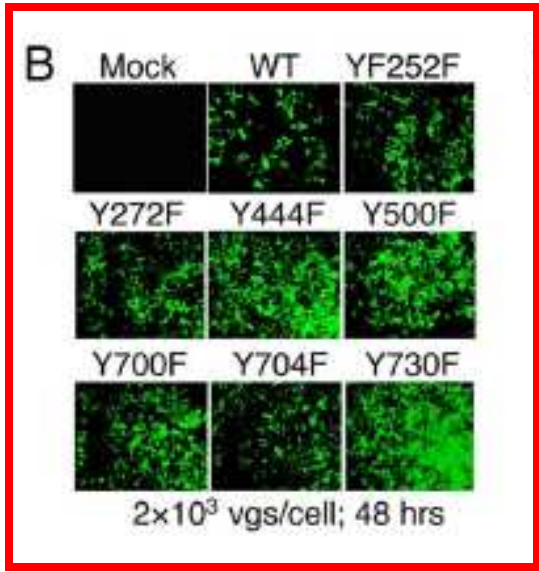
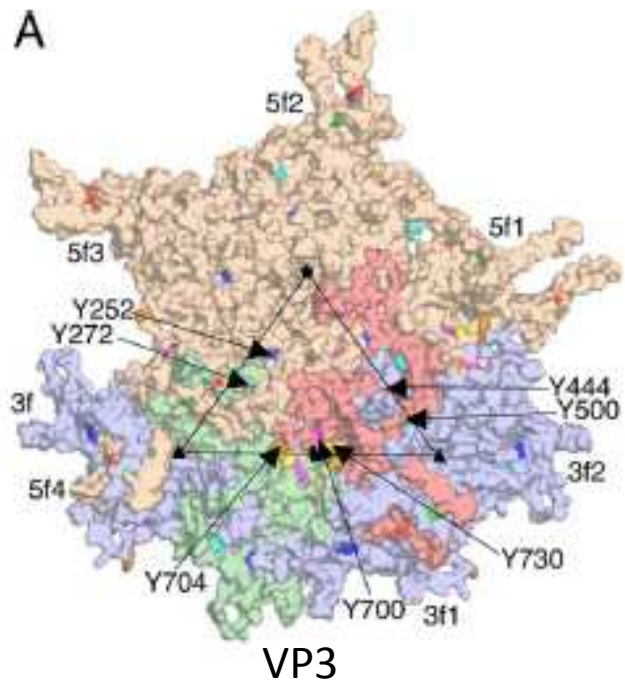


ss Vector  
subretinal



# Independent AAV Vector Variables (Today)





**Intravitreal and Subretinal Injections**

Serotype

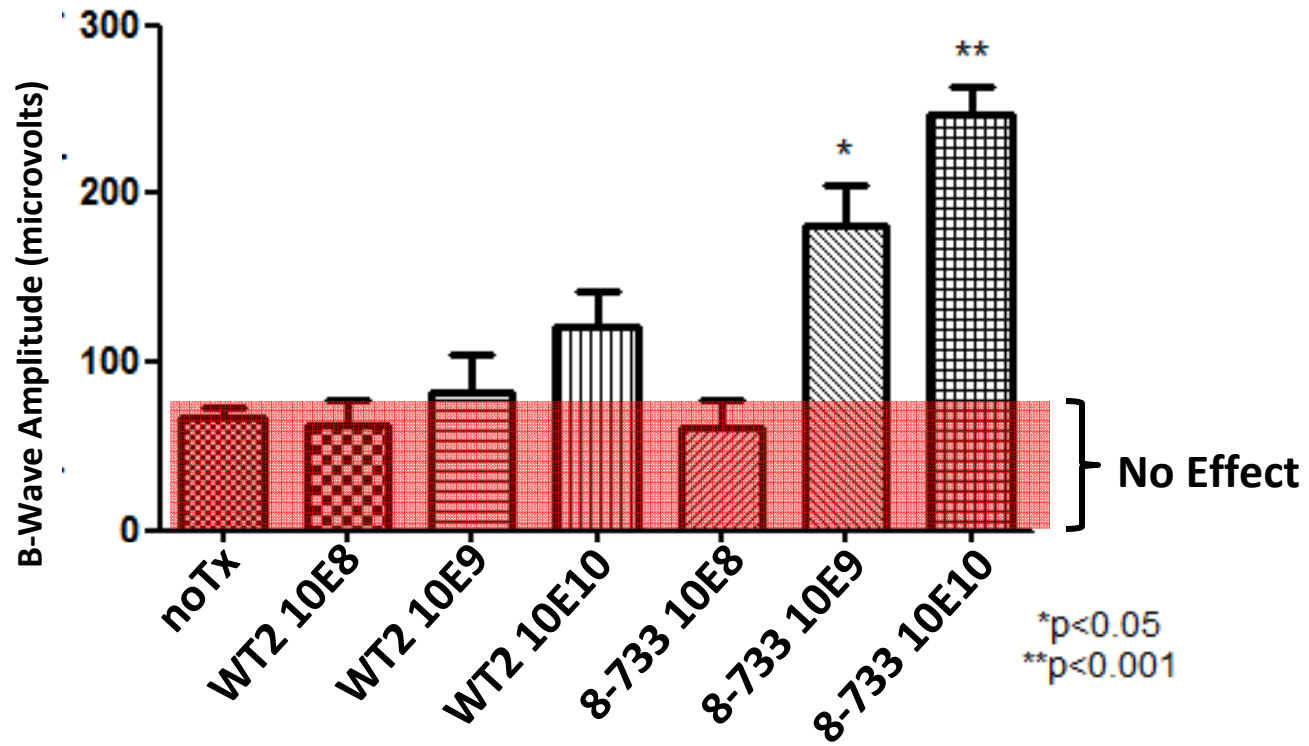
Preferred Tx (CBA Promoter)

1	RPE>PR
2	PR, RPE, RGC*
<b>2-444</b>	<b>PR++, RPE+, RGC*+++</b>
5	PR+, RPE+
4	RPE>PR
7	PR, RPE
8	PR++, RPE++, RGC*, ~MC*
<b>8-733</b>	<b>PR+++<del>, RPE+++</del>, MC, BP, RGC*, MC*+</b>
9	PR++, RPE++, RGC*, ~MC*

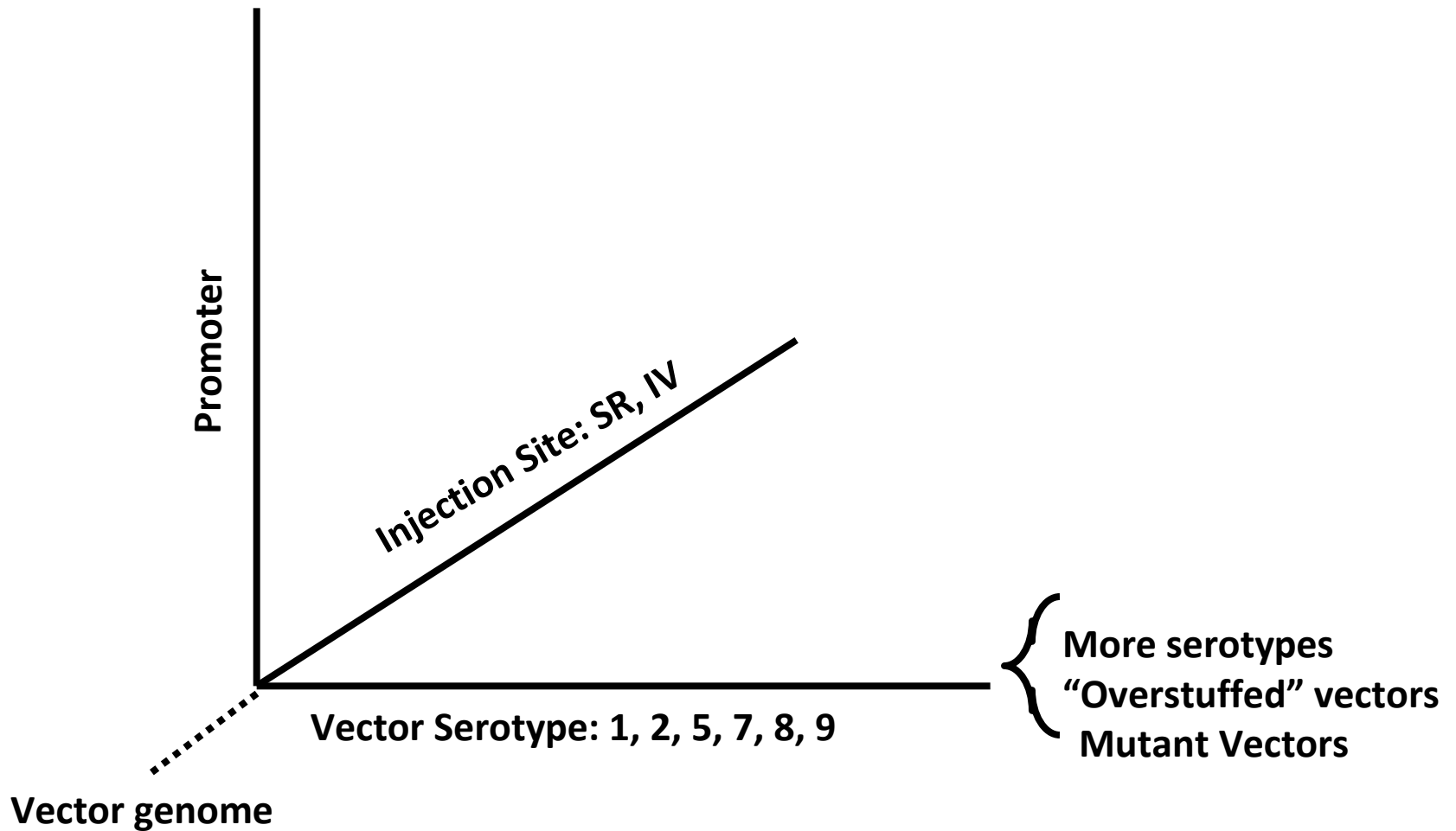
\* Intravitreal vector

# Can we decrease the amount of AAV and still have a therapeutic result?

Subretinal standard AAV2-RPE65 vs. AAV8-733-RPE65 in the rd12 mouse



# Independent AAV Vector Variables (Today)



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Santhi Mani  
Amrisha Verma  
Kathleen Thompson  
Suzi Porterfield  
Ping Han  
Li Liu

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Support

NIH/NEI  
Macula Vision Res. Fdn.  
Fdn. Fighting Blindness  
Hope for Vision  
Res. To Prevent Blindness

