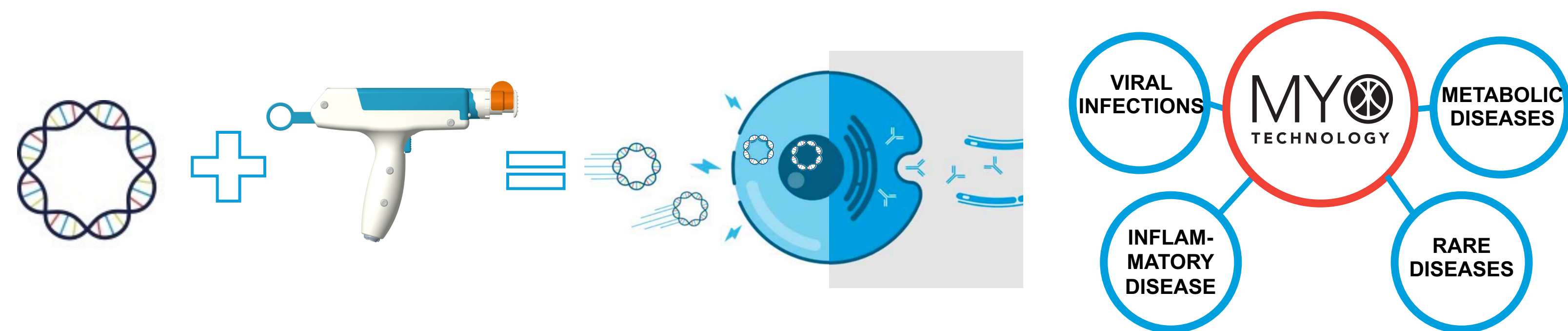


# DNA-based delivery of broadly neutralizing antibody cocktails as universal influenza vaccine alternative

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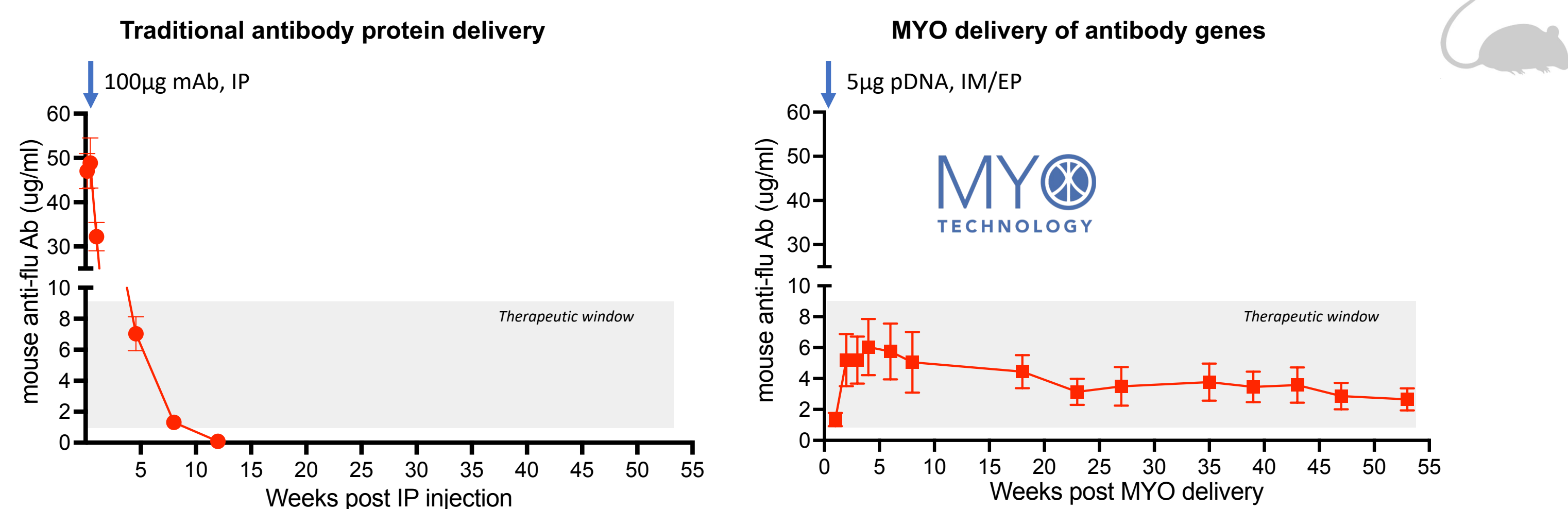
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## MYO Technology Platform

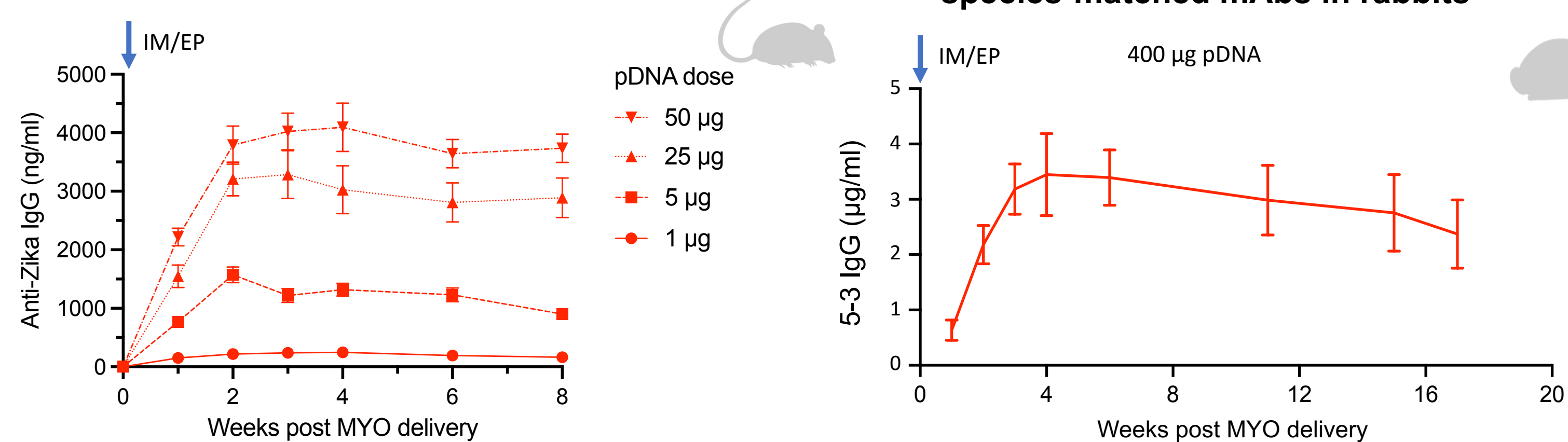


The MYO Technology™ platform enables ultra-long-lasting delivery of antibody and protein therapeutics via intramuscular electroporation (EP) of plasmid DNA. Transfected muscle cells durably express and secrete the encoded protein, which is taken up into peripheral circulation. This uniquely extended pharmacokinetic profile is ideal for treatment of chronic diseases, and prevention of infectious disease.

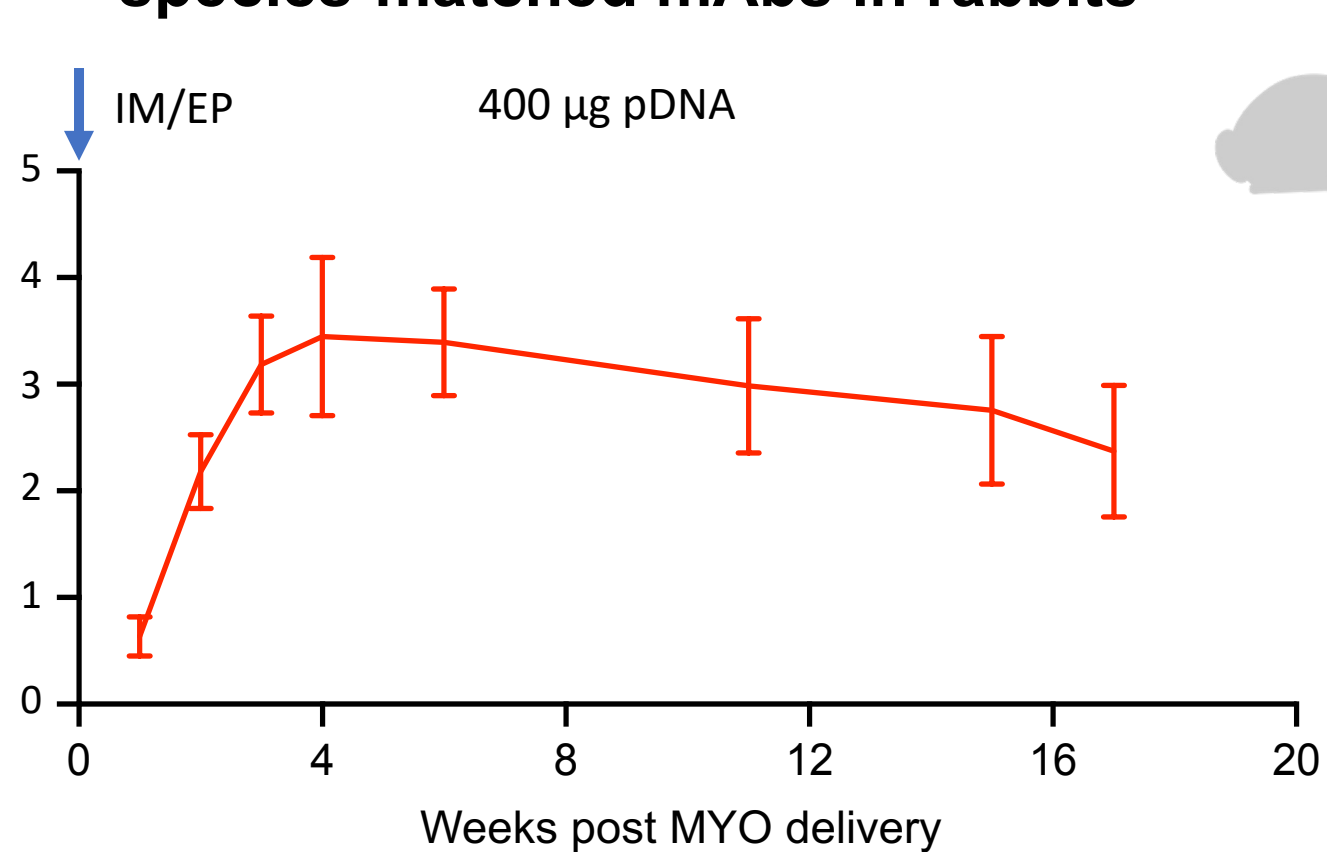
### MYO delivery of antibody genes results in durable antibody levels *in vivo*



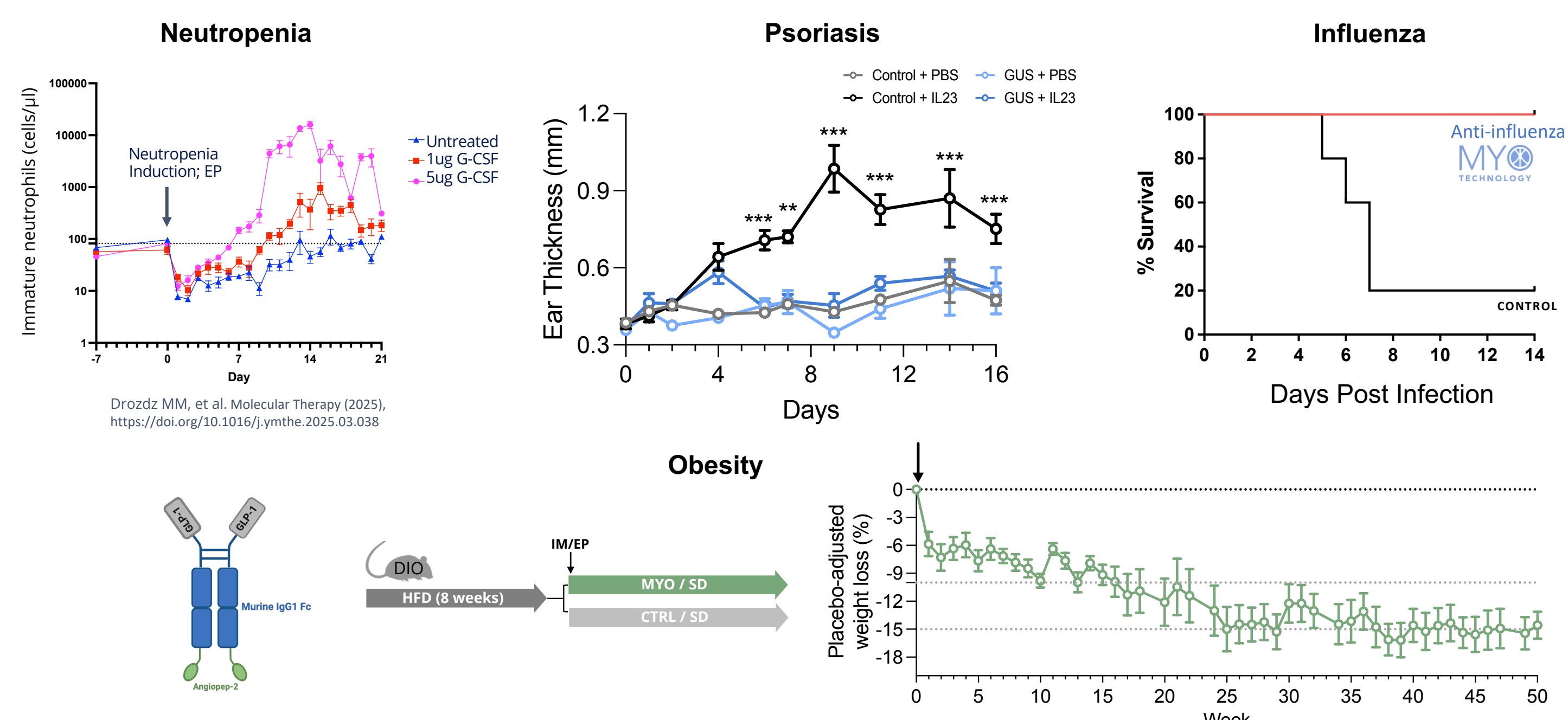
### Serum antibody titration with pDNA dose escalation



### Evaluation of durability and scale with species-matched mAbs in rabbits

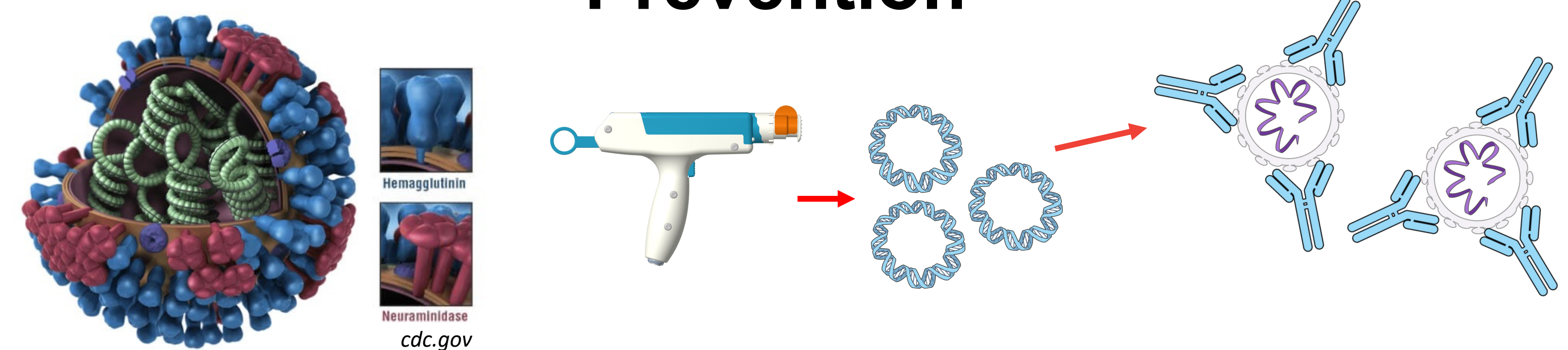


## Efficacy Data in Disease Models



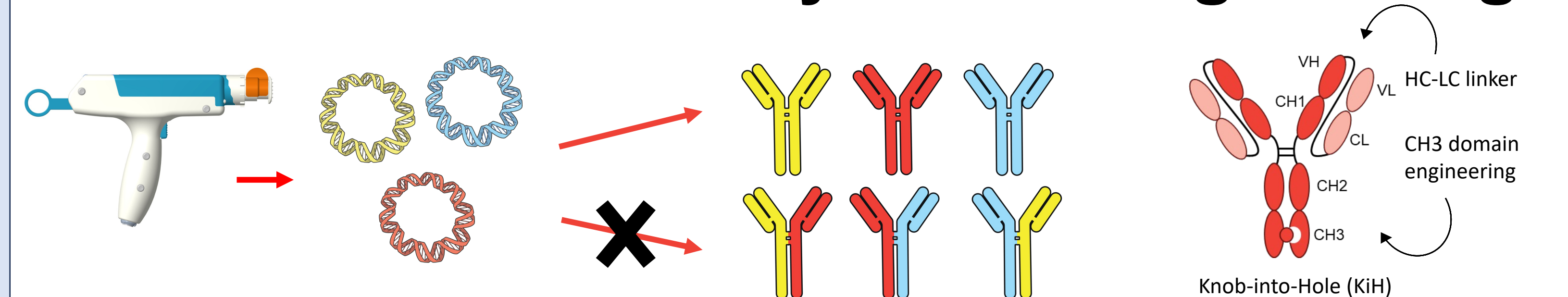
*In vivo*-produced antibodies and therapeutic proteins are functional and efficacious in a diverse array of disease models.

## Neutralizing Antibody Cocktail for Influenza Prevention



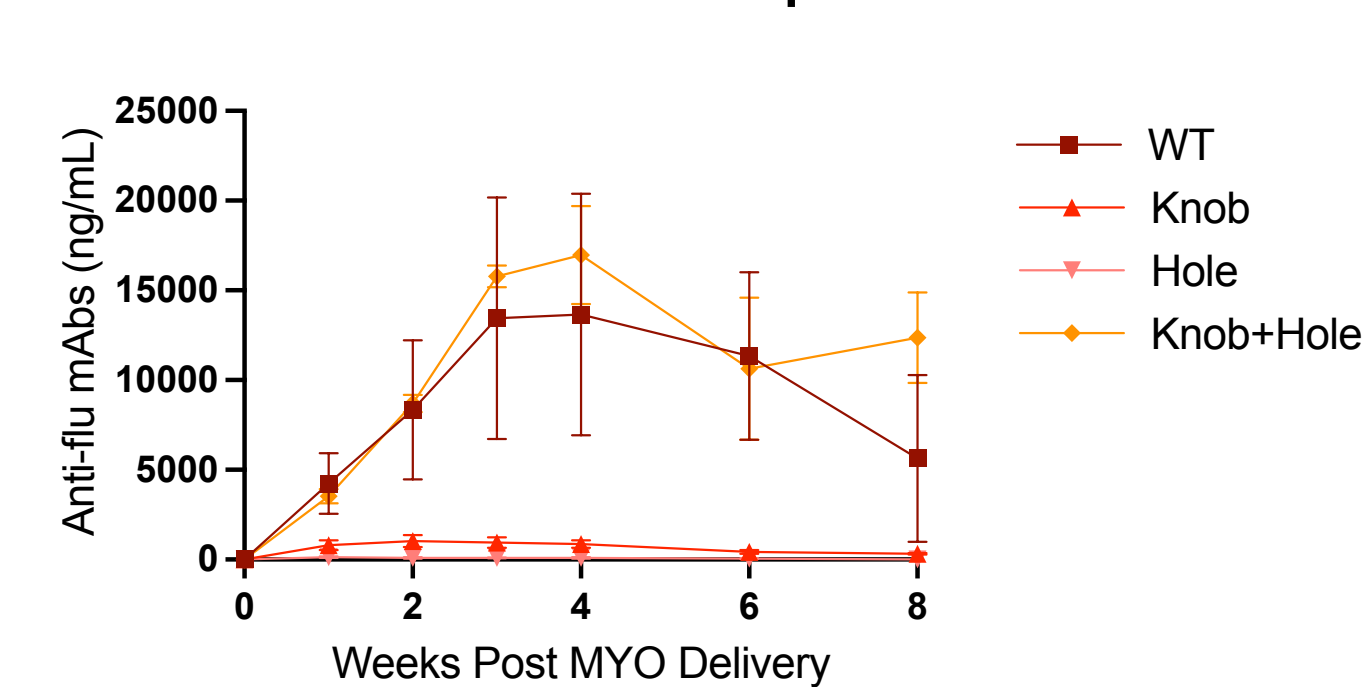
Neutralizing antibodies (NAbs) against influenza viruses can prevent disease in preclinical and clinical settings. We hypothesized that pDNA-based delivery of NAb cocktails using MYO Technology could offer significant and extended protection against a broad range of influenza viruses by targeting conserved regions on antigenic proteins.

## NAb Cocktail Delivery via Ab Engineering

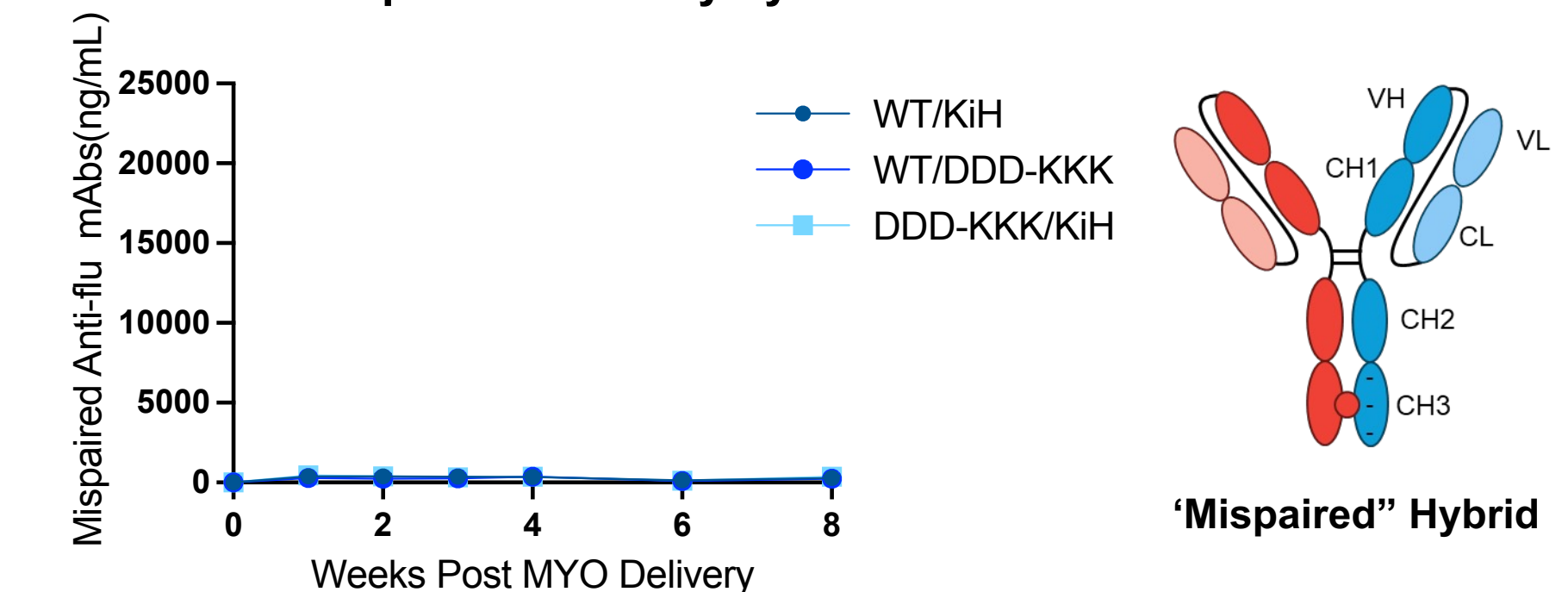


Antibody engineering techniques ensure proper antibody assembly and prevent the formation of mispaired antibody hybrids *in vivo*.

### Fc engineering promotes stable antibody formation *in vivo* post EP

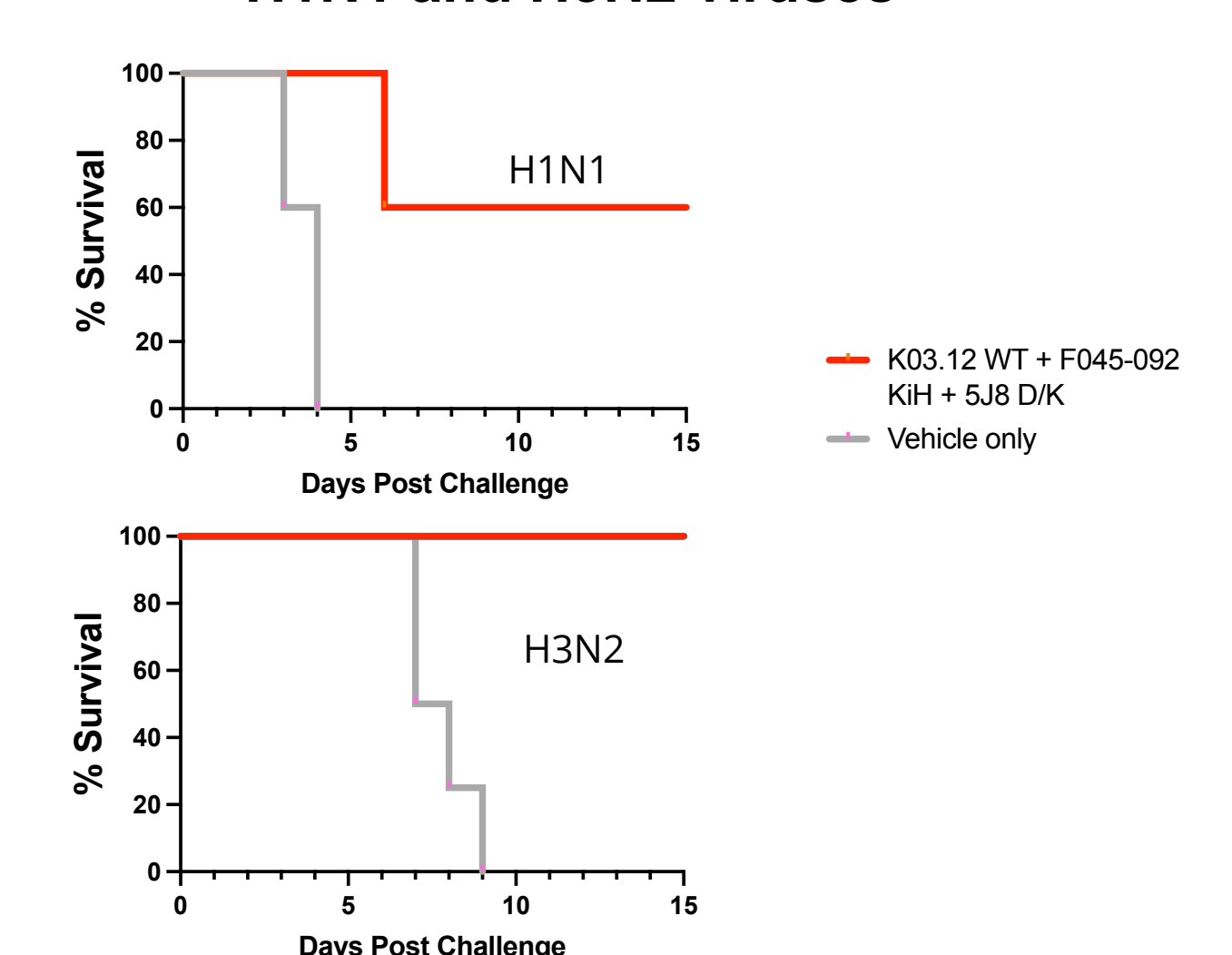


### Fc engineering reduces formation of mispaired antibody hybrids



Cocktail	Antibody #1	Antibody #2	Antibody #3
1	CR9114 (HA stem)	5J8 (head - H1)	F045-092 (head - H3)
2	FN19 (NA)	5J8 (head - H1)	F045-092 (head - H3)
3	2-12C (head - H1)	5J8 (head - H1)	F045-092 (head - H3)
4	K03.12 (head - H3)	5J8 (head - H1)	F045-092 (head - H3)
Mod/Tag	WT - Flag	DDD-KKK - His	KiH - Myc

### A single cocktail can protect against both H1N1 and H3N2 viruses



<sup>2</sup> Gunasekaran et al, J Biol Chem. 2010 Jun 18;285(25):19637-46. doi: 10.1074/jbc.M110.117382.