

### The Overall Focus

Both adaptive and innate immunity can play different roles in the development versus the persistence of pain. However, specific mechanisms in the development of various types of pain-states are poorly elucidated. Our lab is focused on immune-interactions in the development and chronicity of pain.

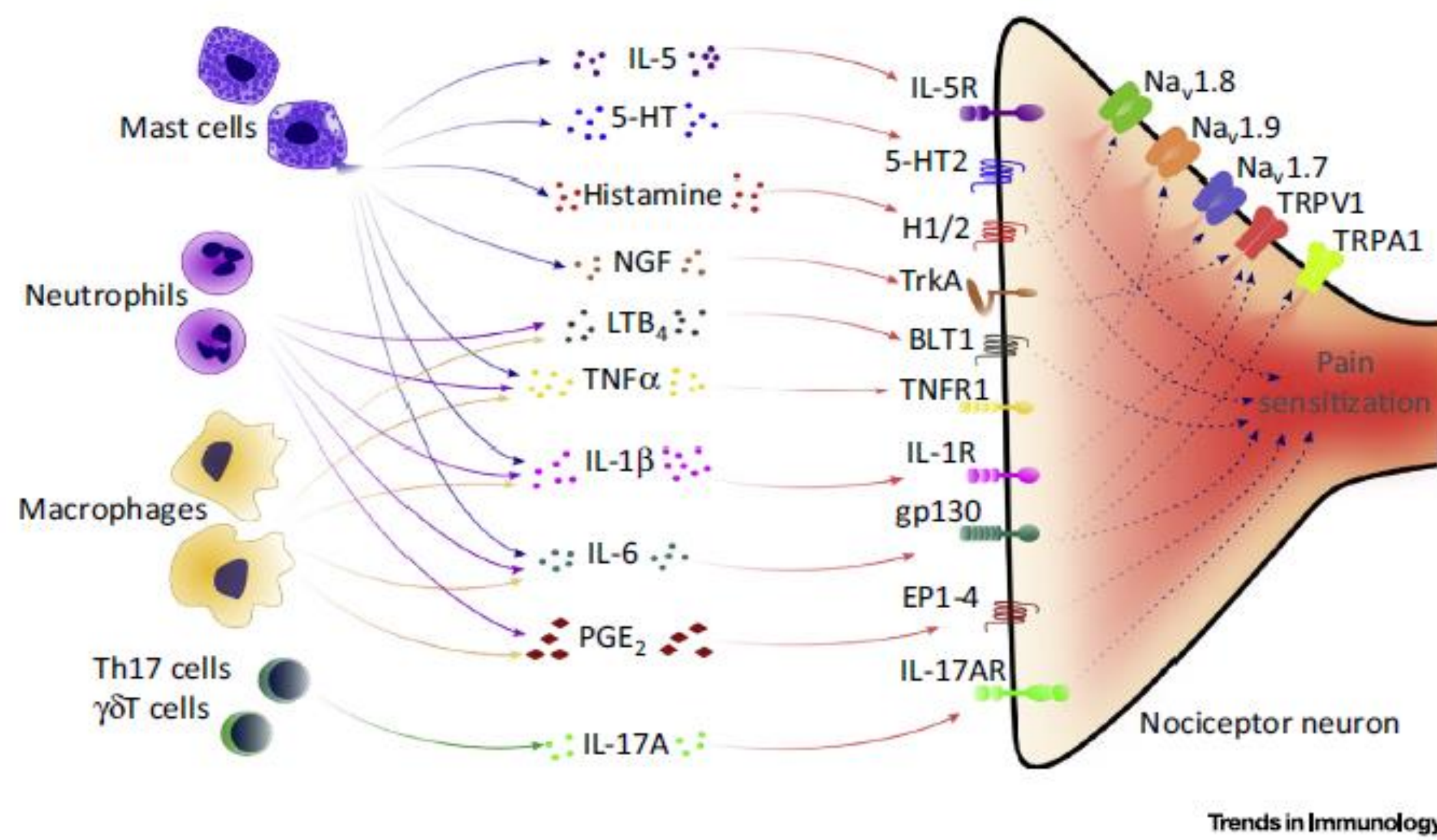
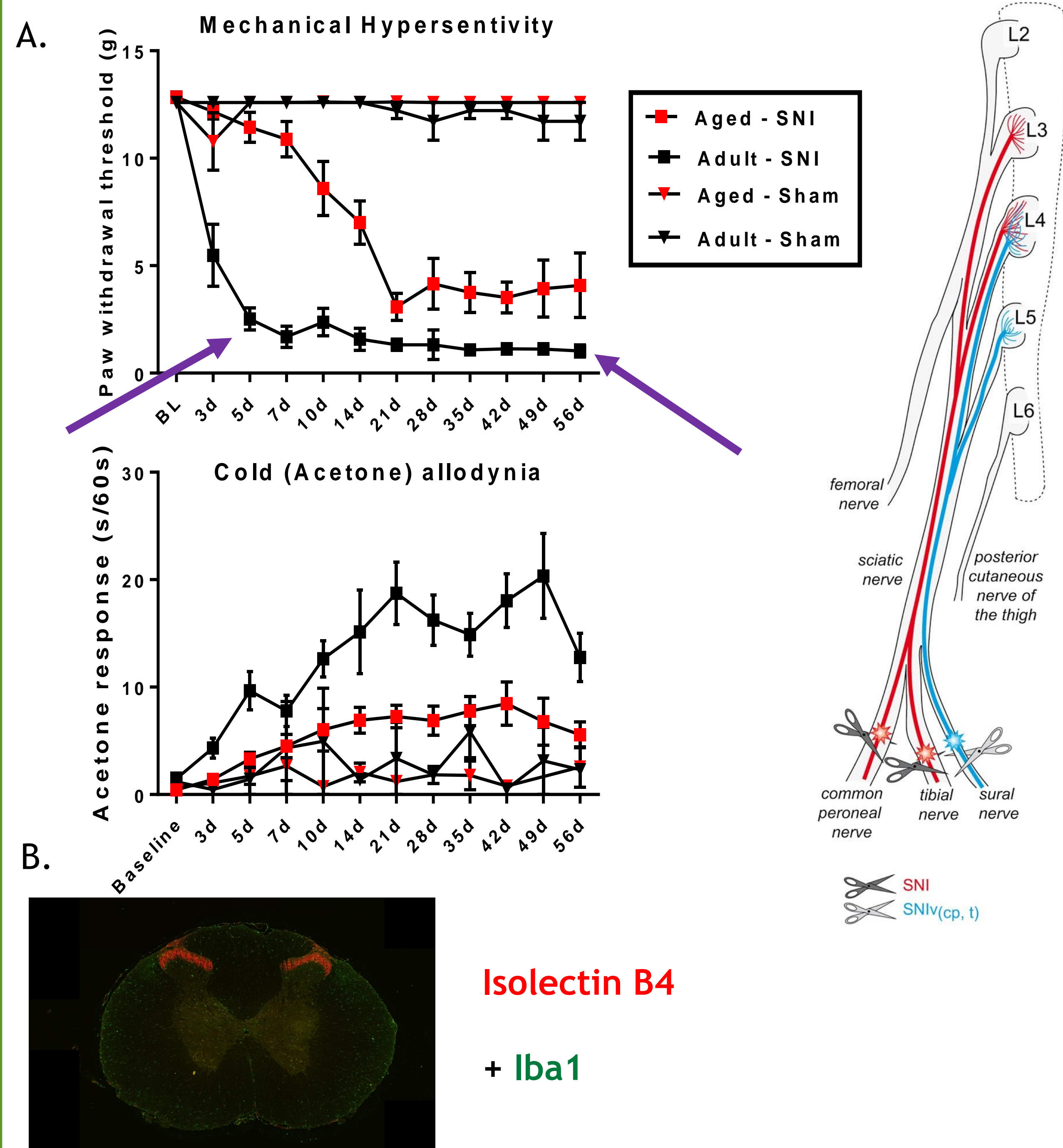


FIGURE 1. Immune cells produce mediators that sensitize nociceptors.

### Aging and Nerve Injury - Neuropathic Pain



### Cell-specific action of Toll-like Receptor-4 (TLR4)

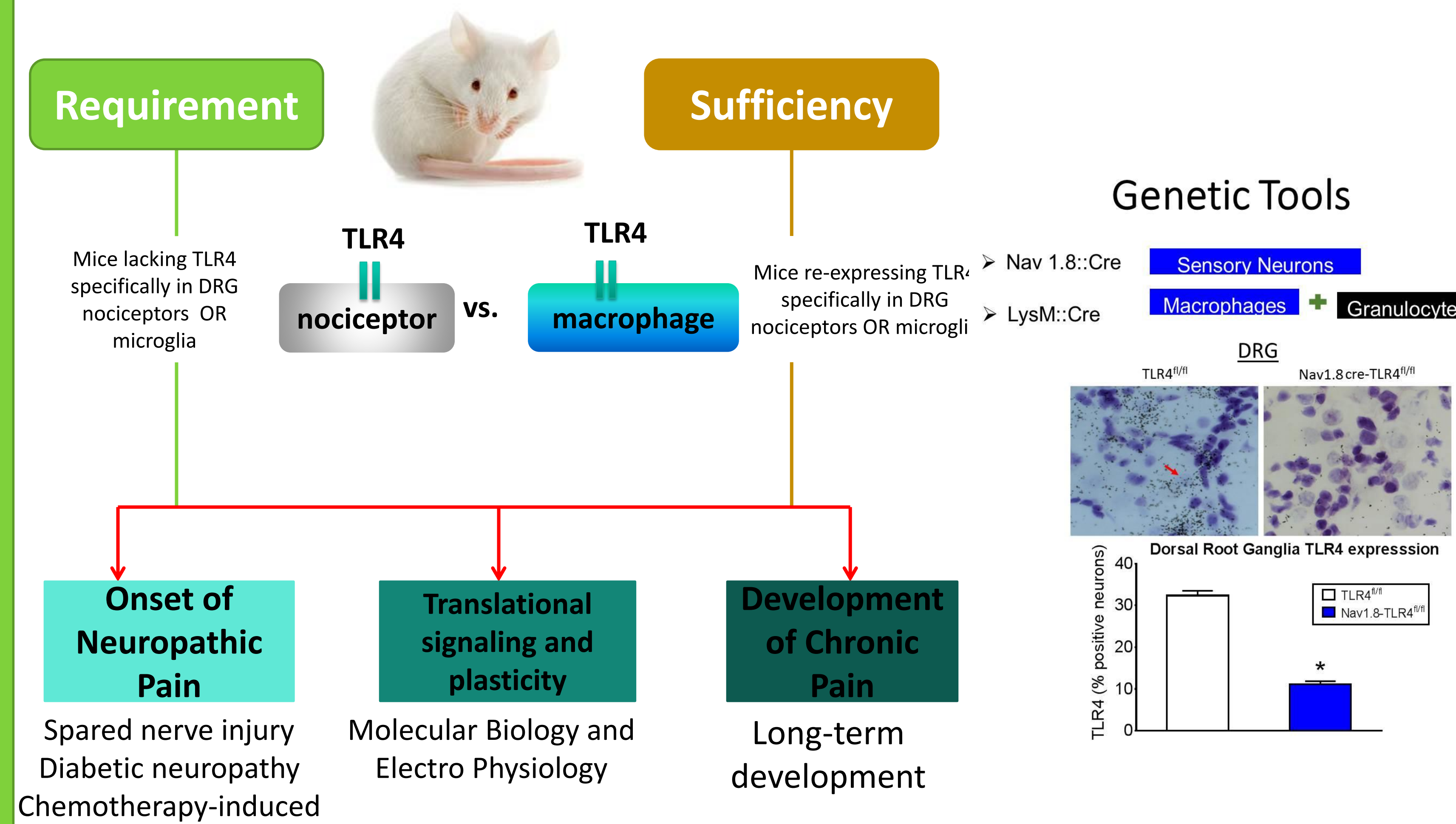
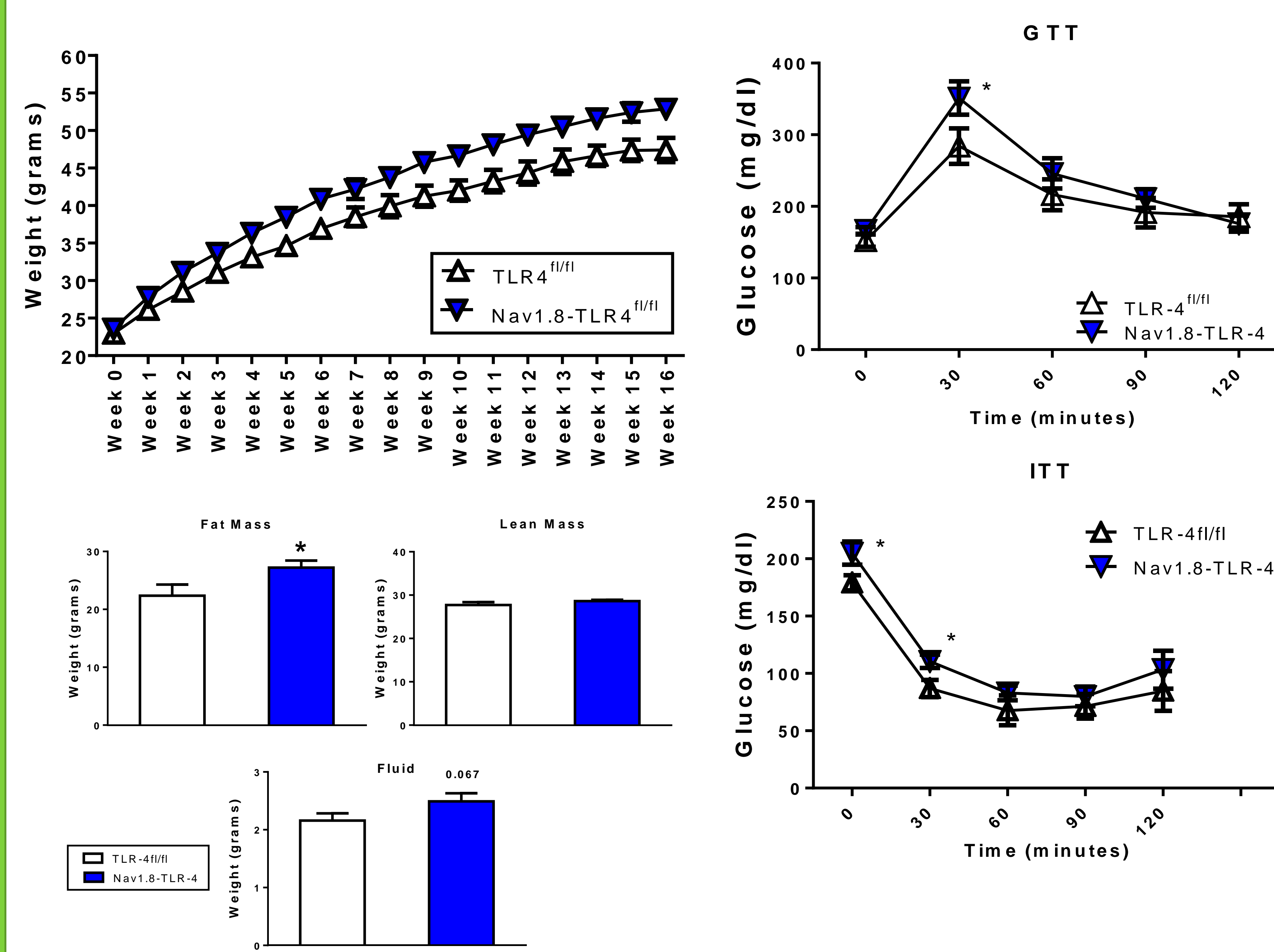
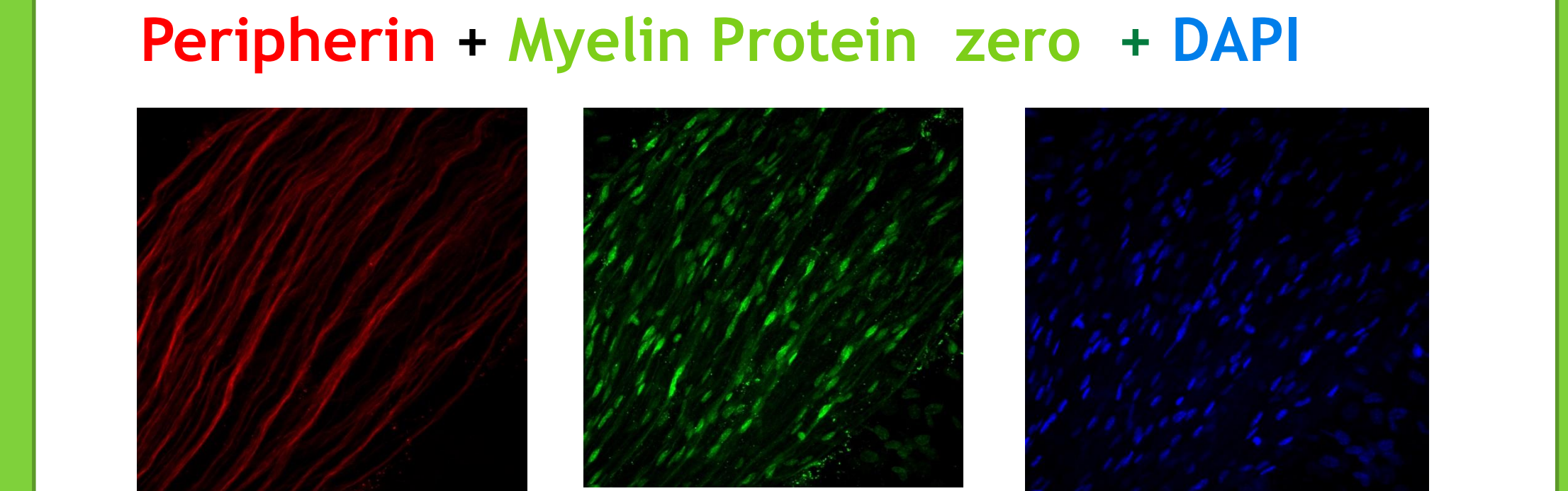
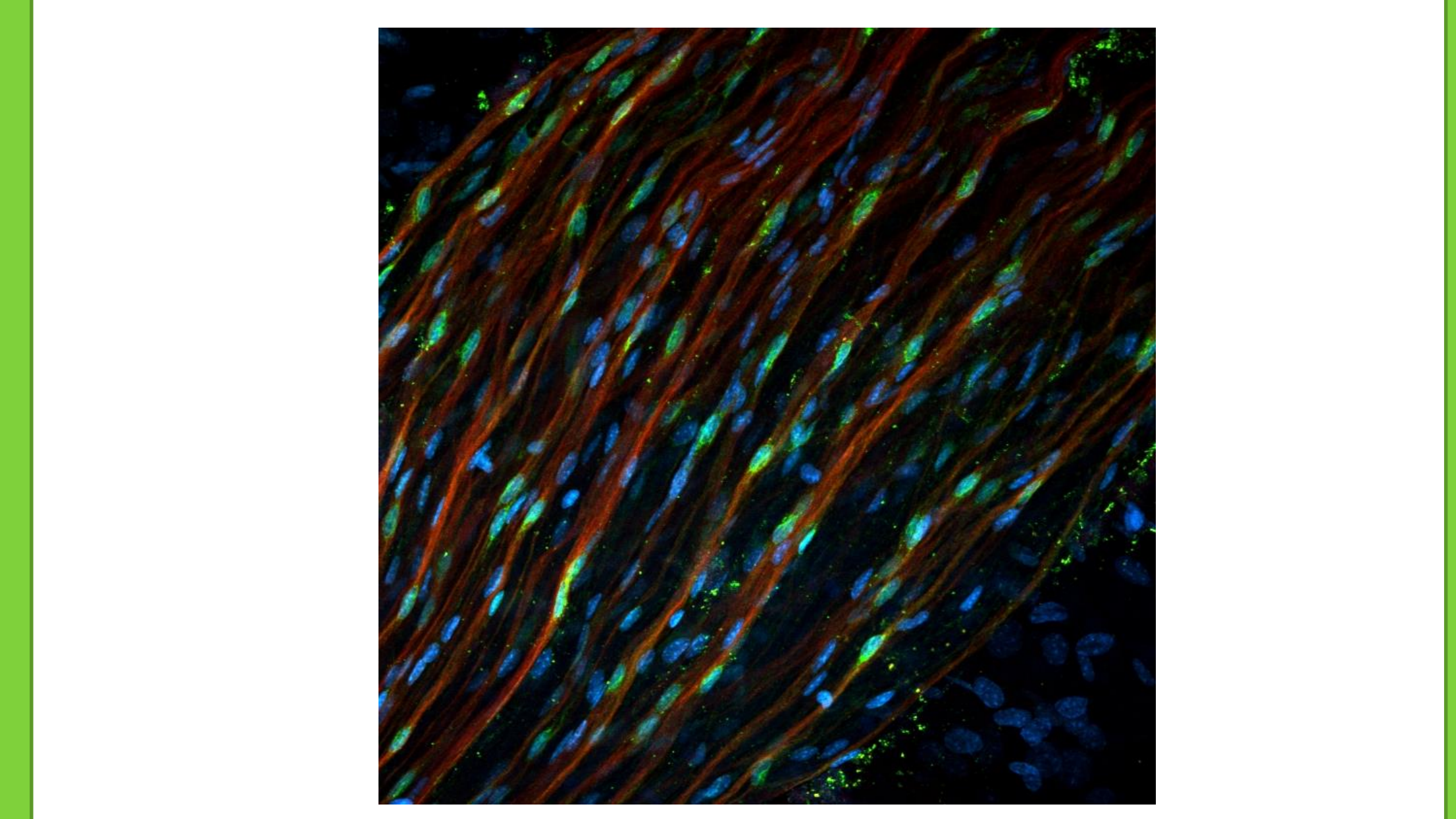
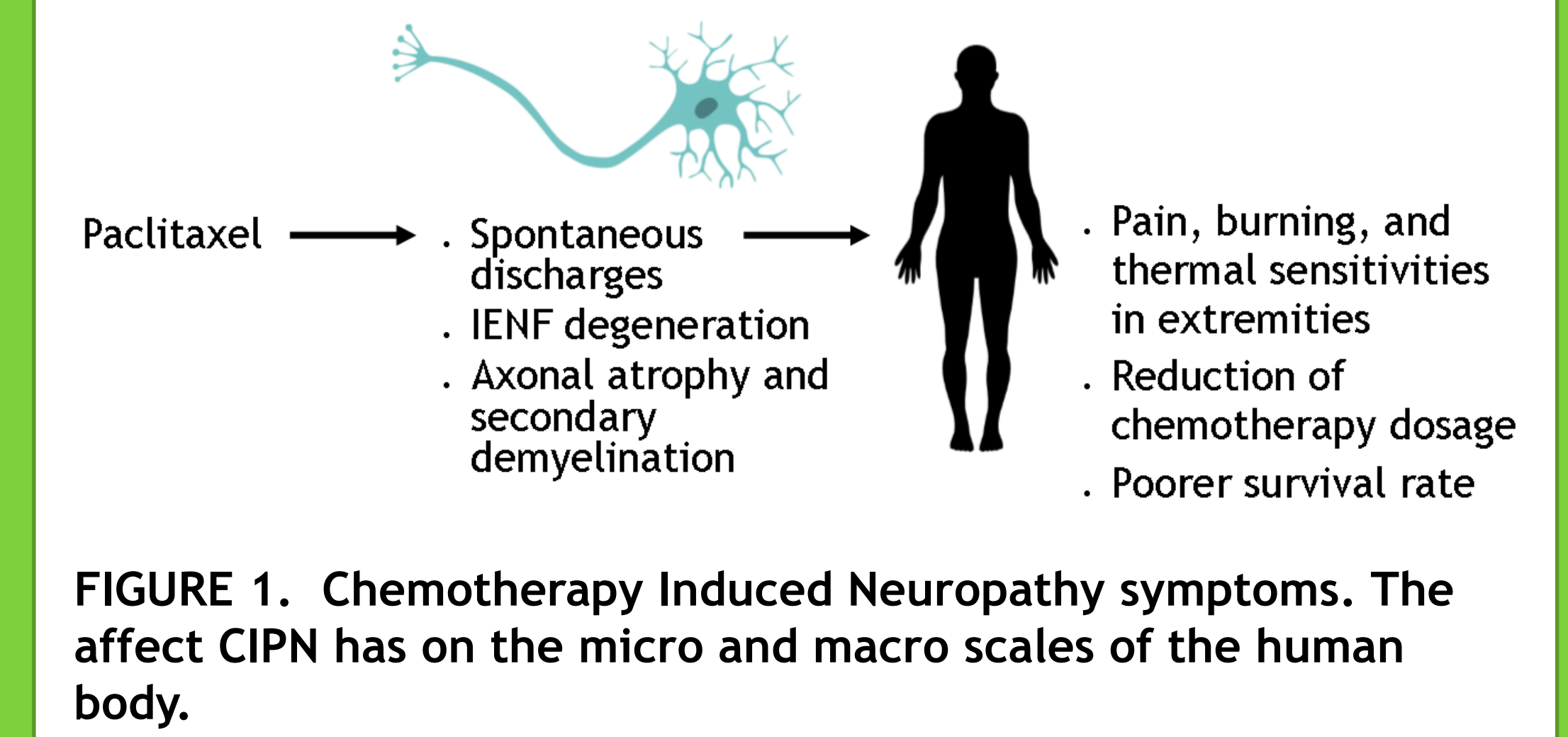


FIGURE 2. The working hypothesis and proof-of-concept genetic experiment.

### High-Fat Diet-induced Obesity - Diabetic Neuropathic Pain



### Chemotherapy-induced Peripheral Neuropathy



### REFERENCES

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