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### CSF1R Inhibition Restores Cognition Following Immunotherapy

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# CSF1R Inhibition Rescues Cognition Following Immunotherapy

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## Introduction

- Patients that undergo CAR T-cell therapy often experience significant side effects, including cognitive decline.
- Chemotherapy related cognitive impairment mouse models show increased microglial activation and reduced myelin thickness
- We seek to understand the long term cellular and neurological effects of CAR T-cell therapy

## Methods



## Literature cited

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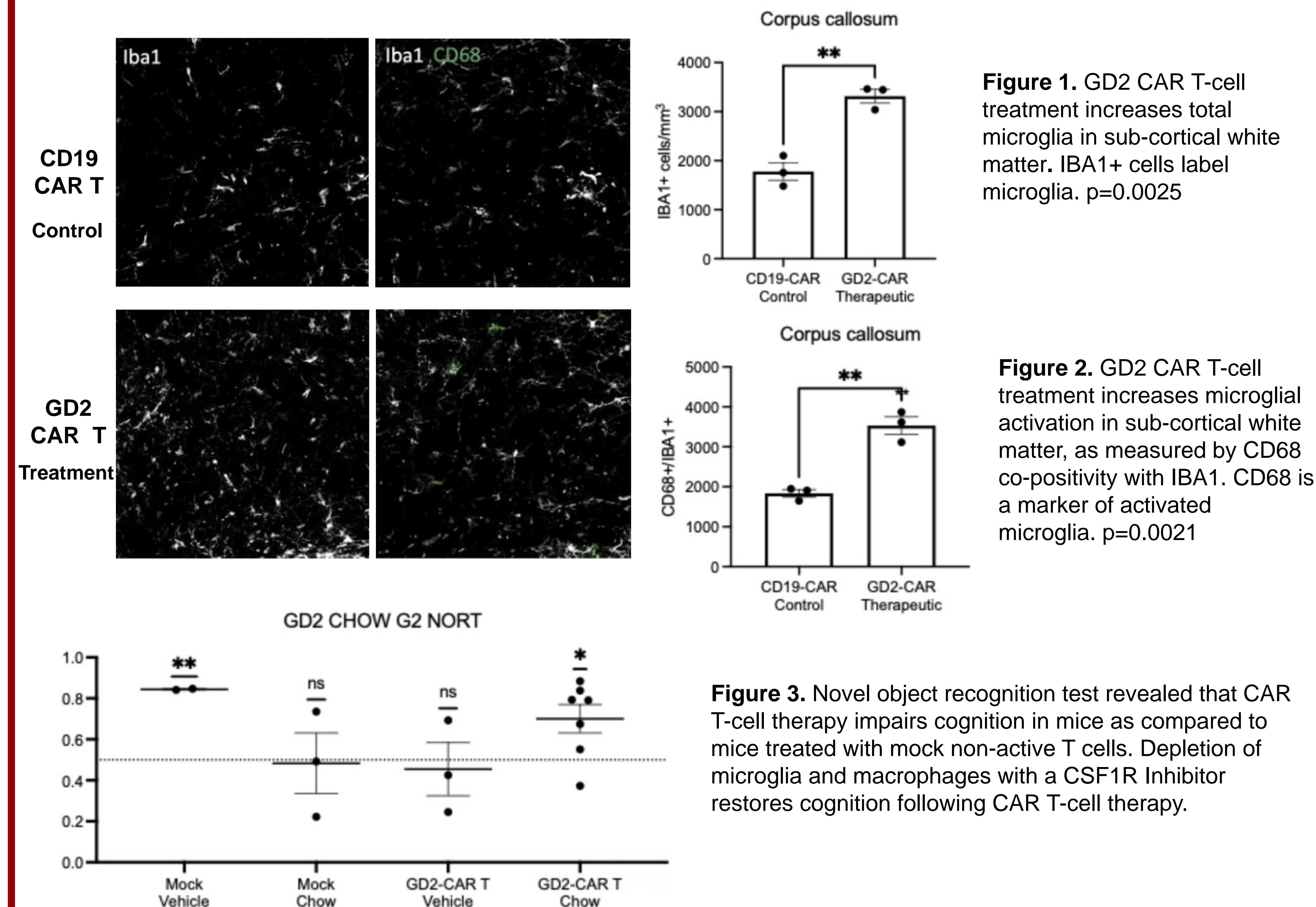
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## Results



## Conclusions

- CAR T-cell therapy increases microglial activation in sub-cortical white matter, inducing myelin damage
- Damaged myelin may contribute to impaired cognition.
- Microglia/macrophage depletion with a CSF1R inhibitor reduces activation and rescues cognition.

## Future Studies

- Pre-depletion of microglia and macrophages with CSF1R inhibitors prior to CAR T-cell therapy
- Nuc-sequencing to understand transcriptional changes in multiple cell type following CAR T-cell therapy

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