

Unraveling the Neuroinflammatory Puzzle: Exploring the Link between Neuroinflammation and ASD

The Powerpuff Genes

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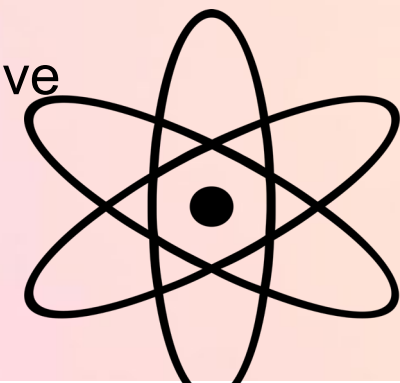
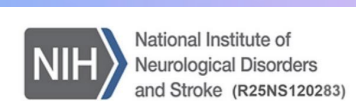
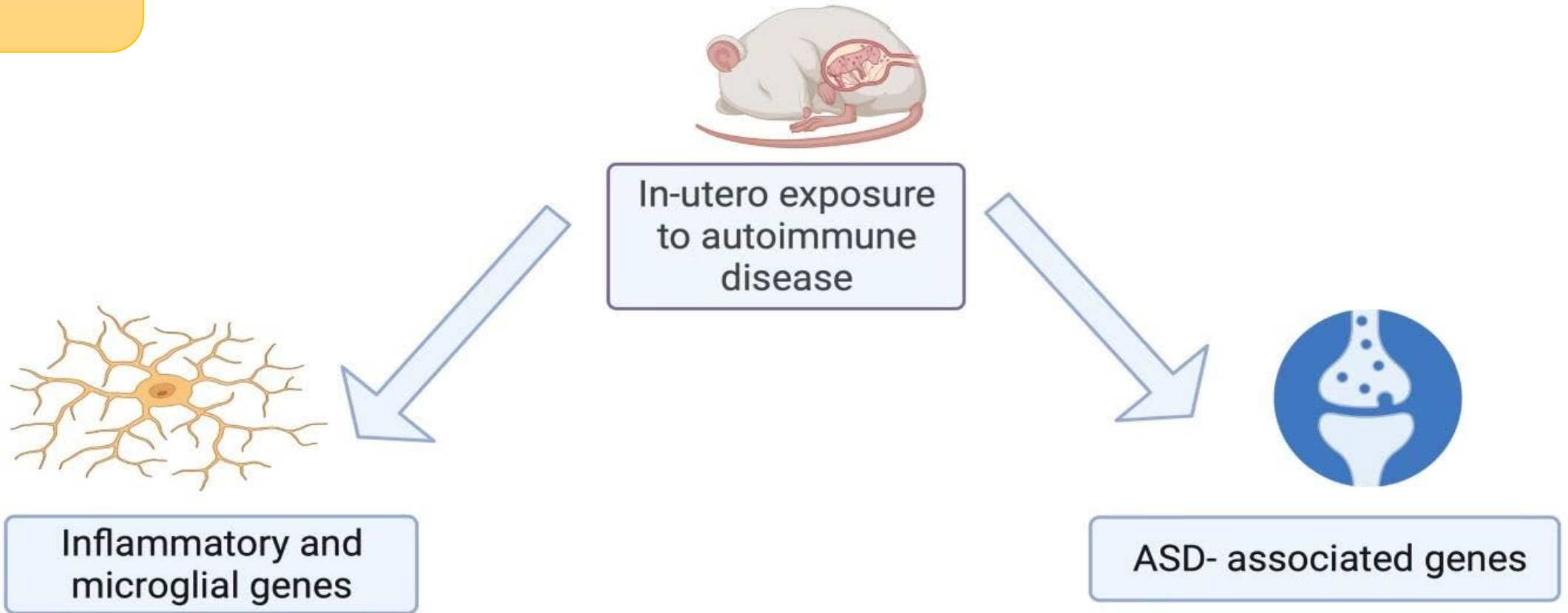


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Goal



Hypothesis

Exposure to autoimmune conditions in utero may contribute to abnormal expression levels of ASD-associated genes and neuroinflammatory genes.

Specific aims

- To determine the expression of inflammatory and microglial gene.
- To determine the expression of ASD associated genes

Research design

3 weeks



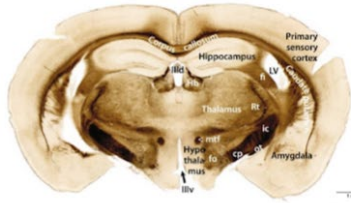
B6/
NZBW

Research design

3 weeks

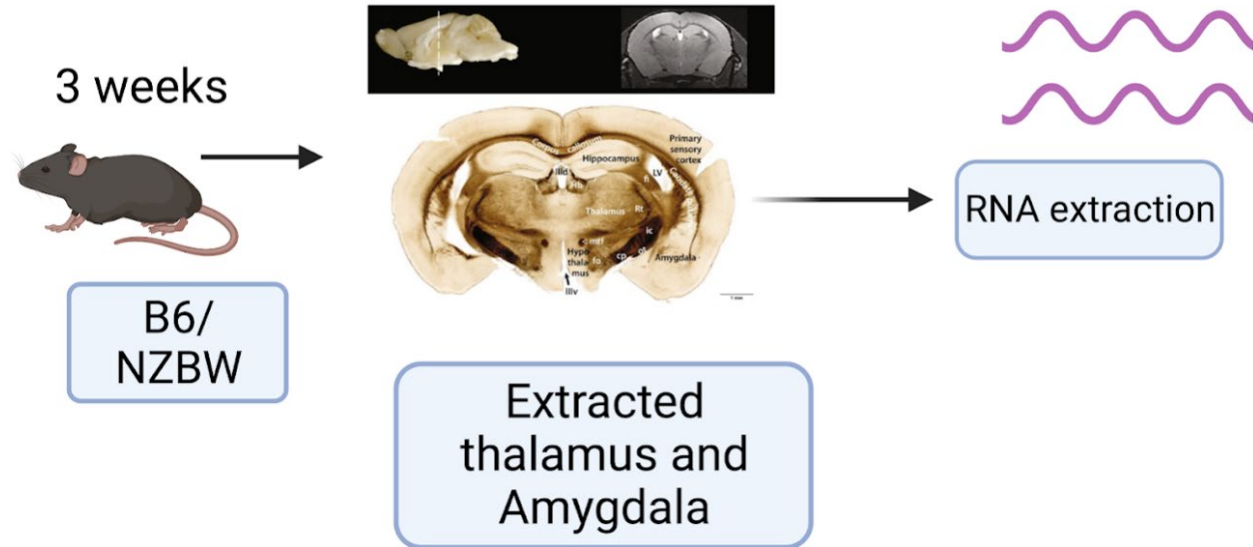


B6/
NZBW

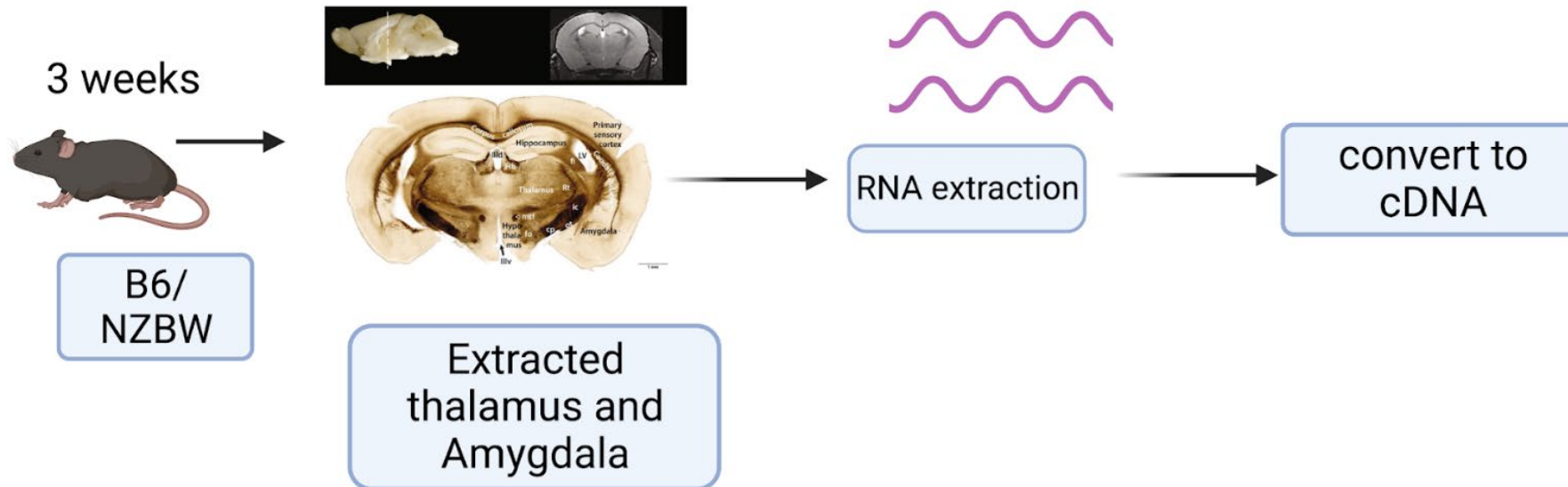


Extracted
thalamus and
Amygdala

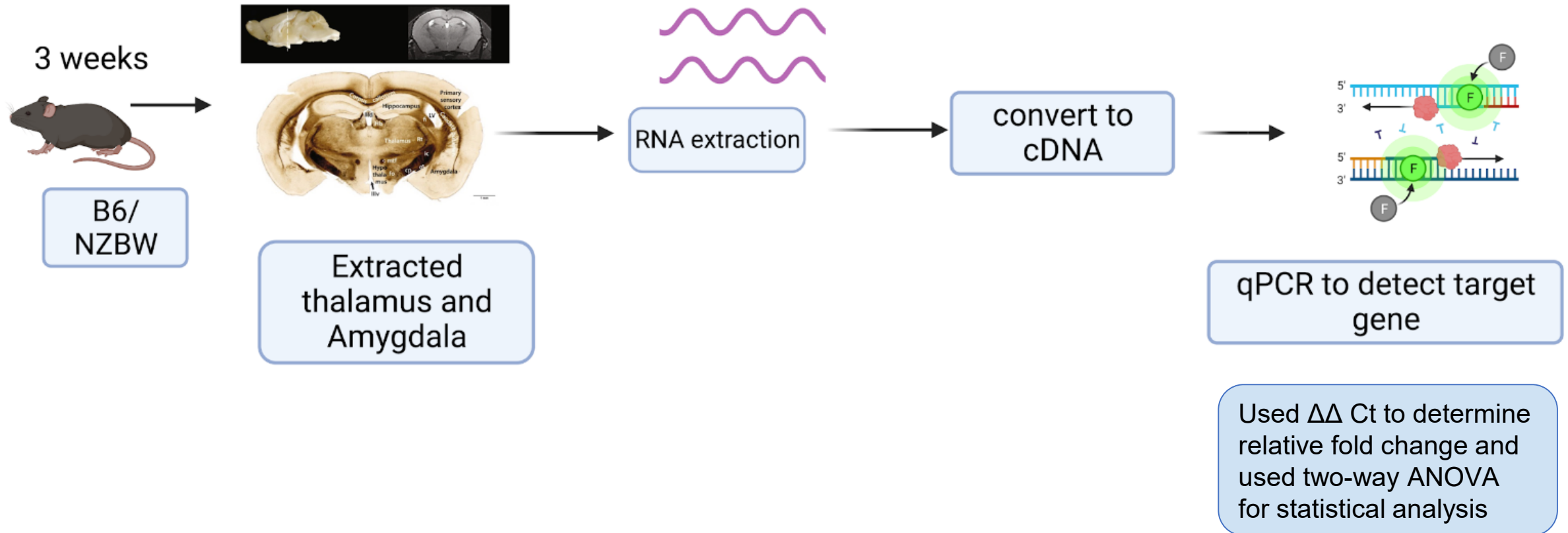
Research design



Research design



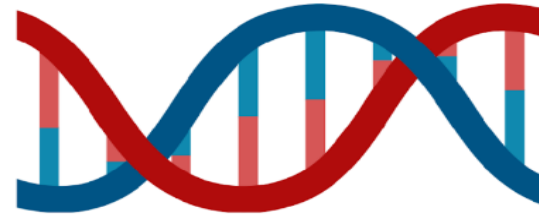
Research design



Gene



Autoimmunity



ASD associated genes

NOS- nitric oxide synthase

Detect inflammation

ILB- intreleukin1 beta

To detect activation of microglial

Shank-3

Maturation of synapse

BDNF

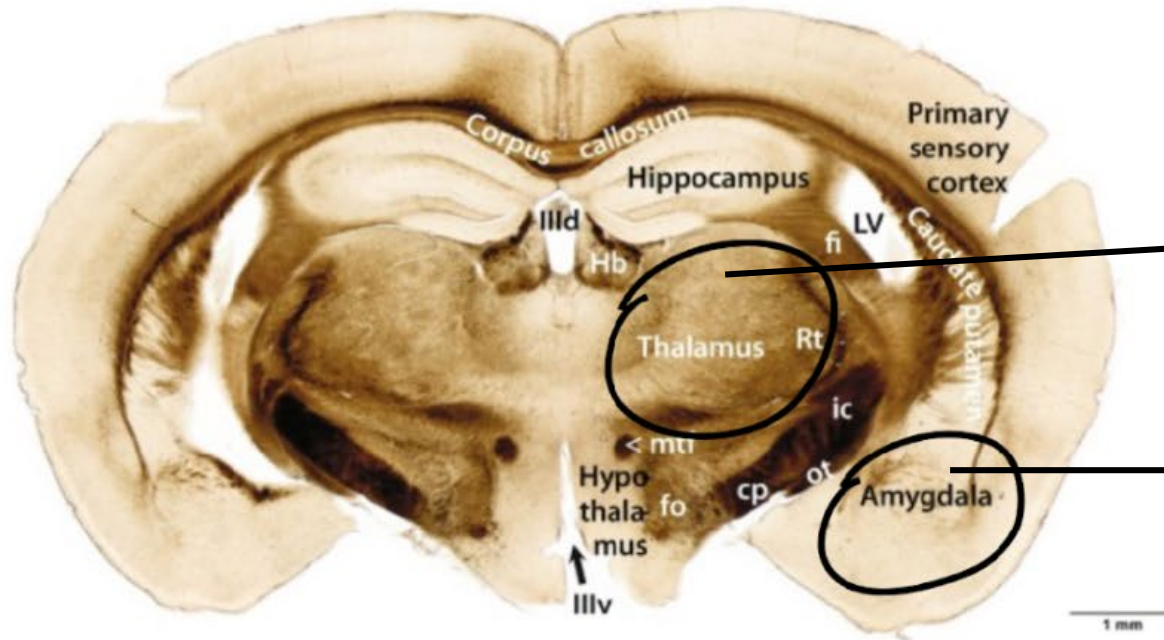
Brain derived neurotropic factor

NGLN

Modelling of synapses



Region of interest



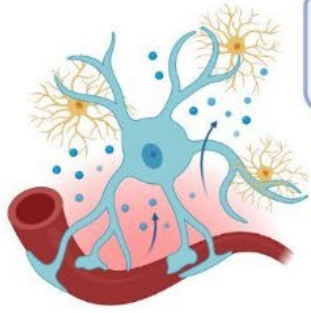
Sensory processing

Social behavior

Results

Results aim 1: To determine the expression of genes associated with neuroinflammation

Comparison of neuroinflammatory gene expression indicated no difference



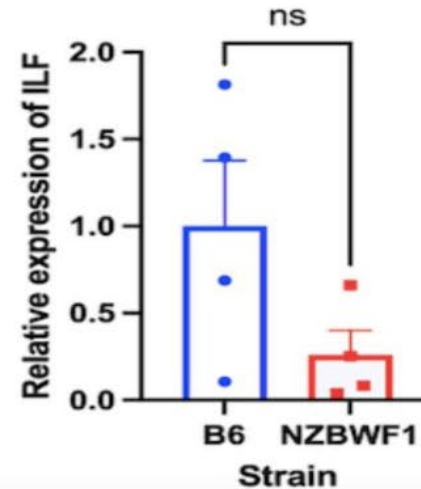
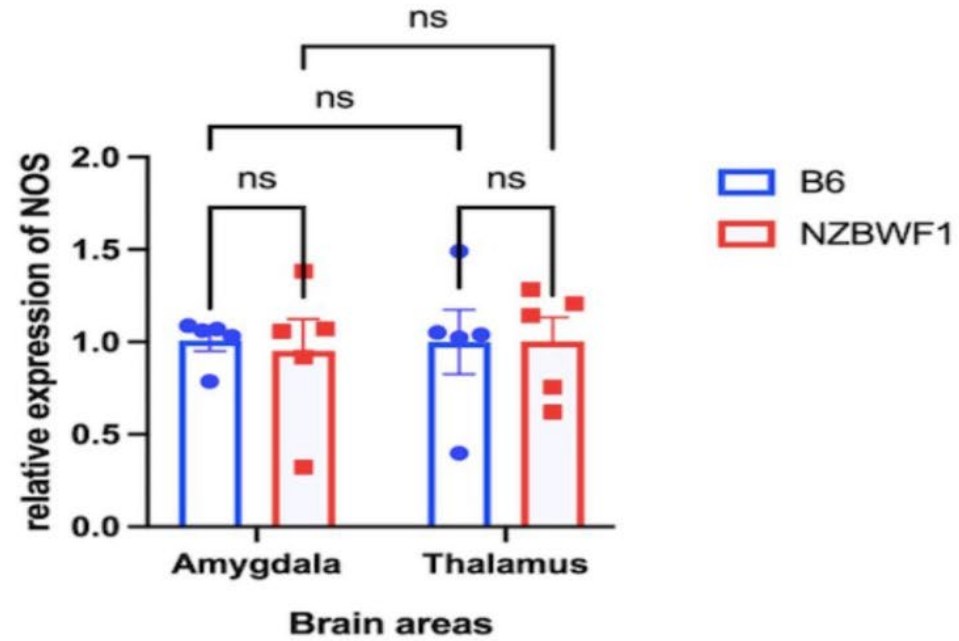
Autoimmunity

NOS- nitric oxide synthase

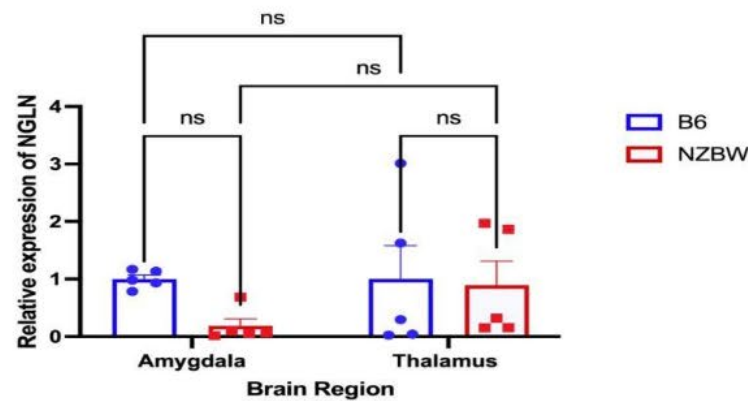
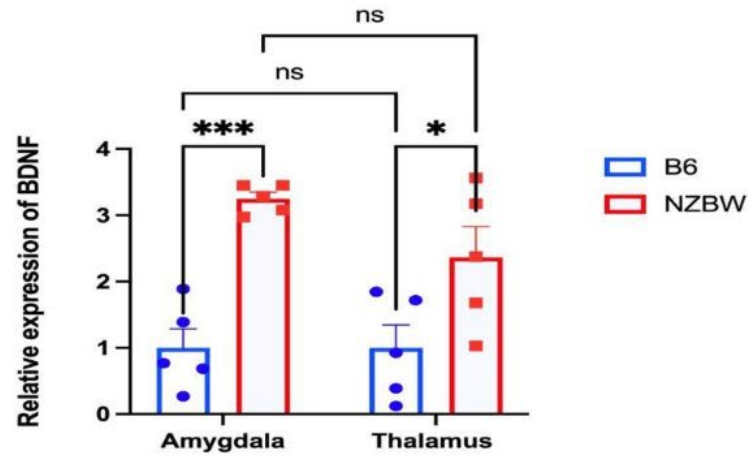
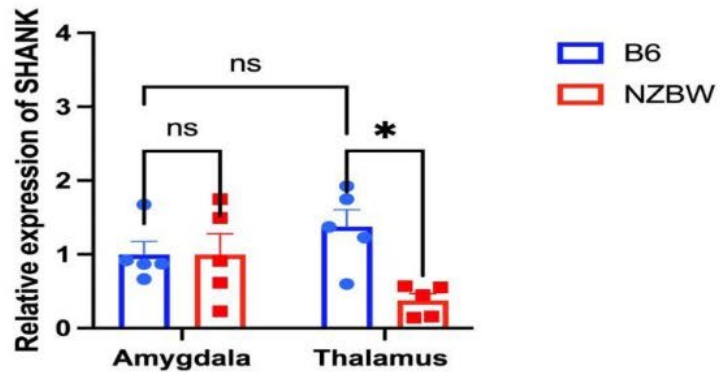
To detect neuroinflammation

ILB- interleukin1 beta

To detect activation of microglial



Results aim 2: To determine the expression of ASD associated genes



Some of the ASD associated gene expression was dysregulated in NZBWF1 mice

Shank-3

Maturation of synapse

BDNF

Brain derived neurotropic factor

NGLN

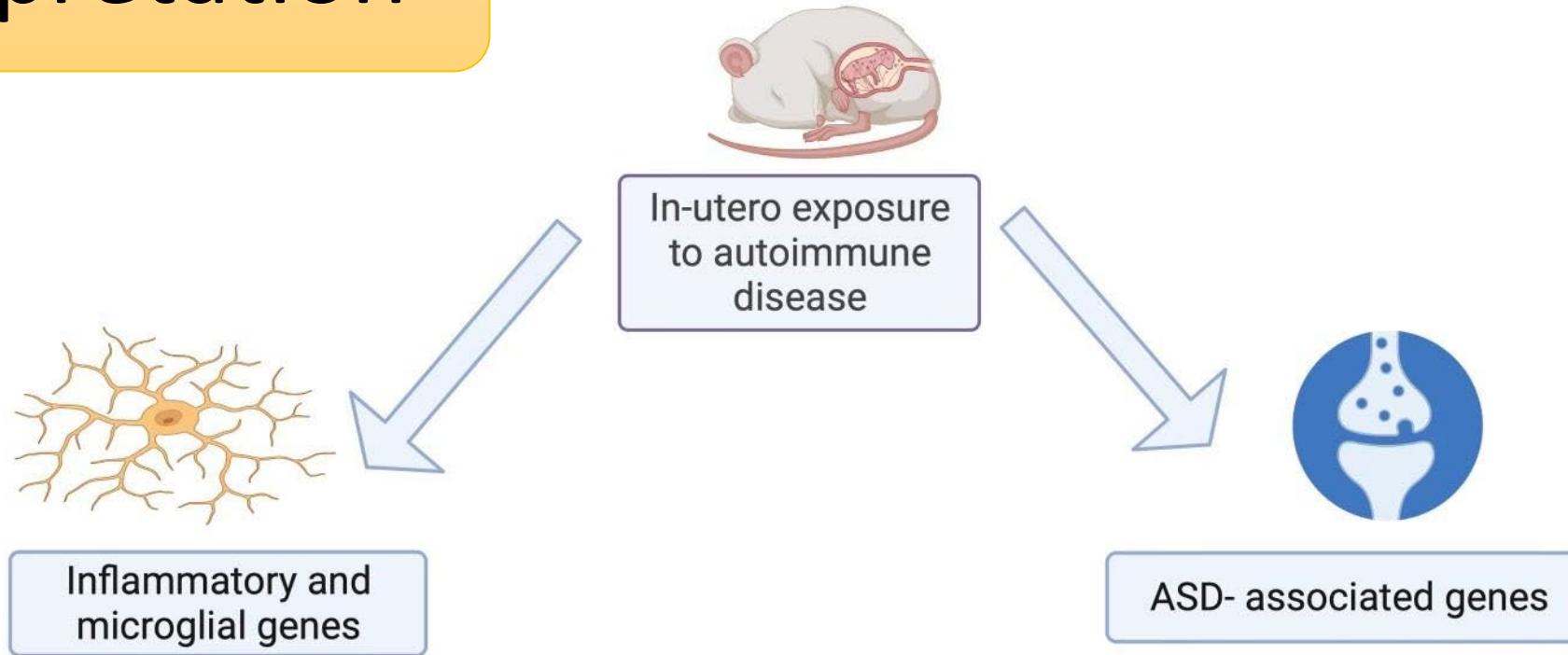
Modelling of synapses



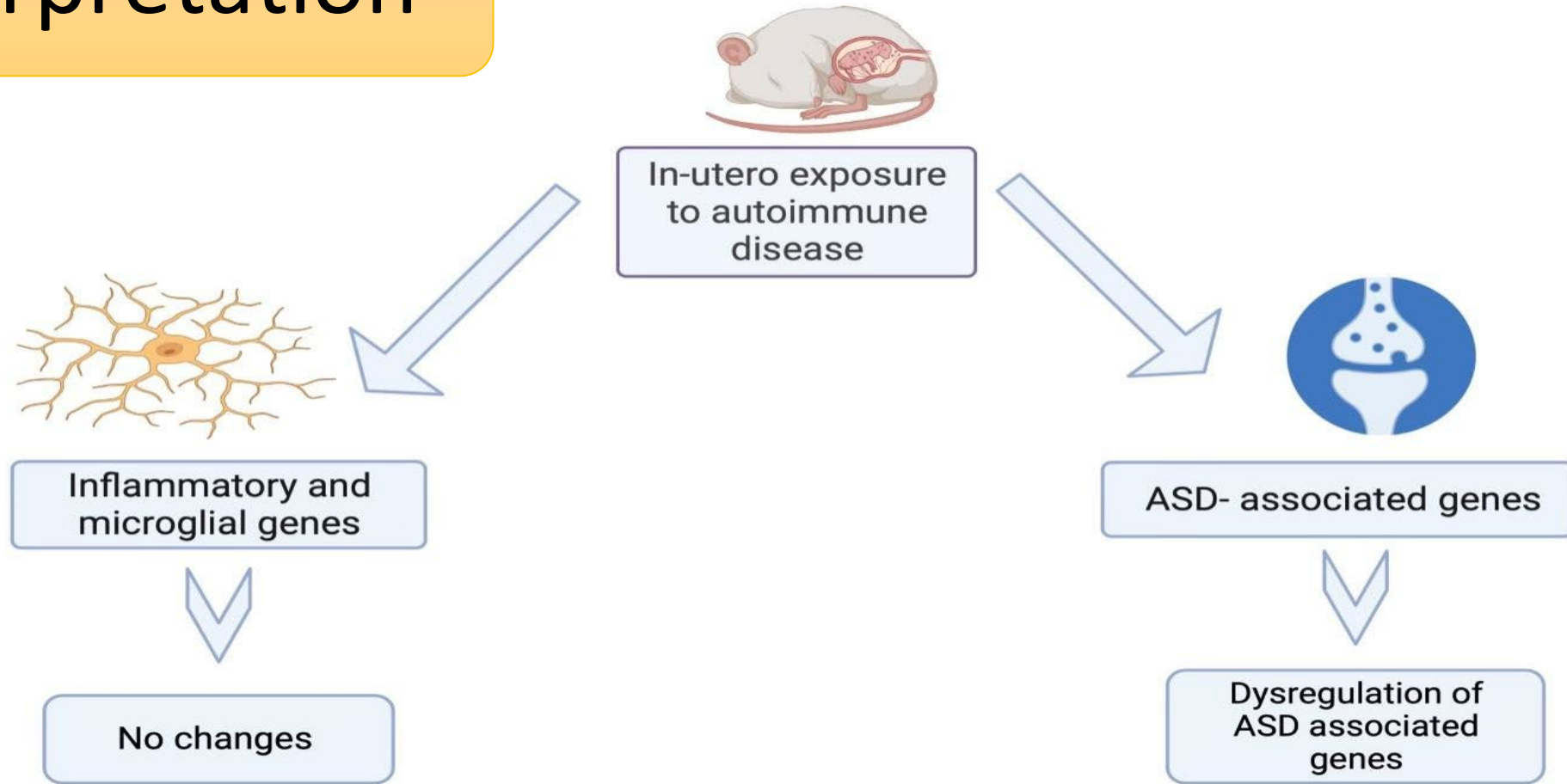
ASD associated genes

Interpretation

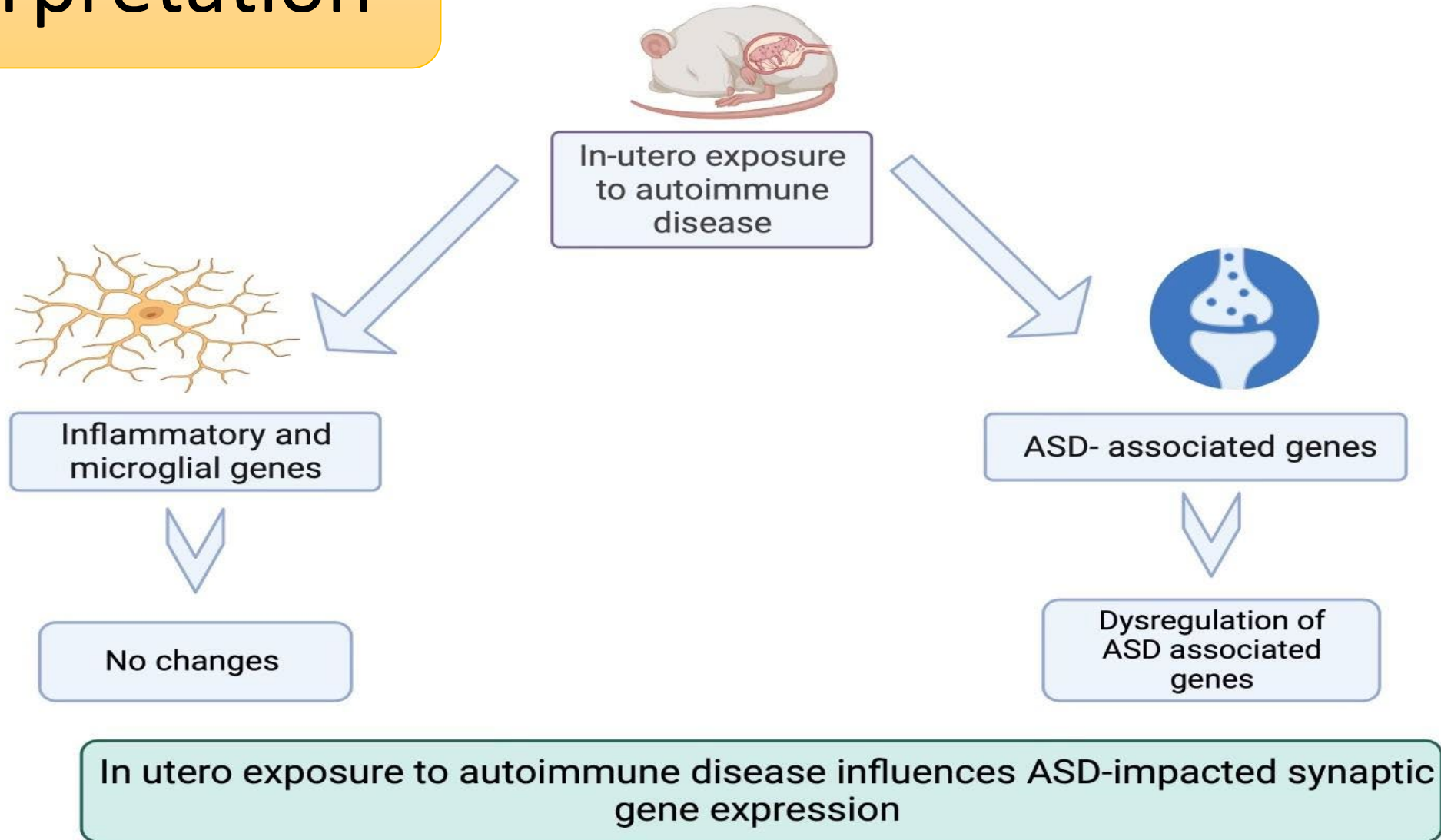
Interpretation



Interpretation



Interpretation





THANK YOU!



Acknowledgements

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References

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Any Questions?

