

Age and sex differences in pro- and anti-inflammatory cytokine mRNA expression in the prefrontal cortex, hippocampus and hypothalamus

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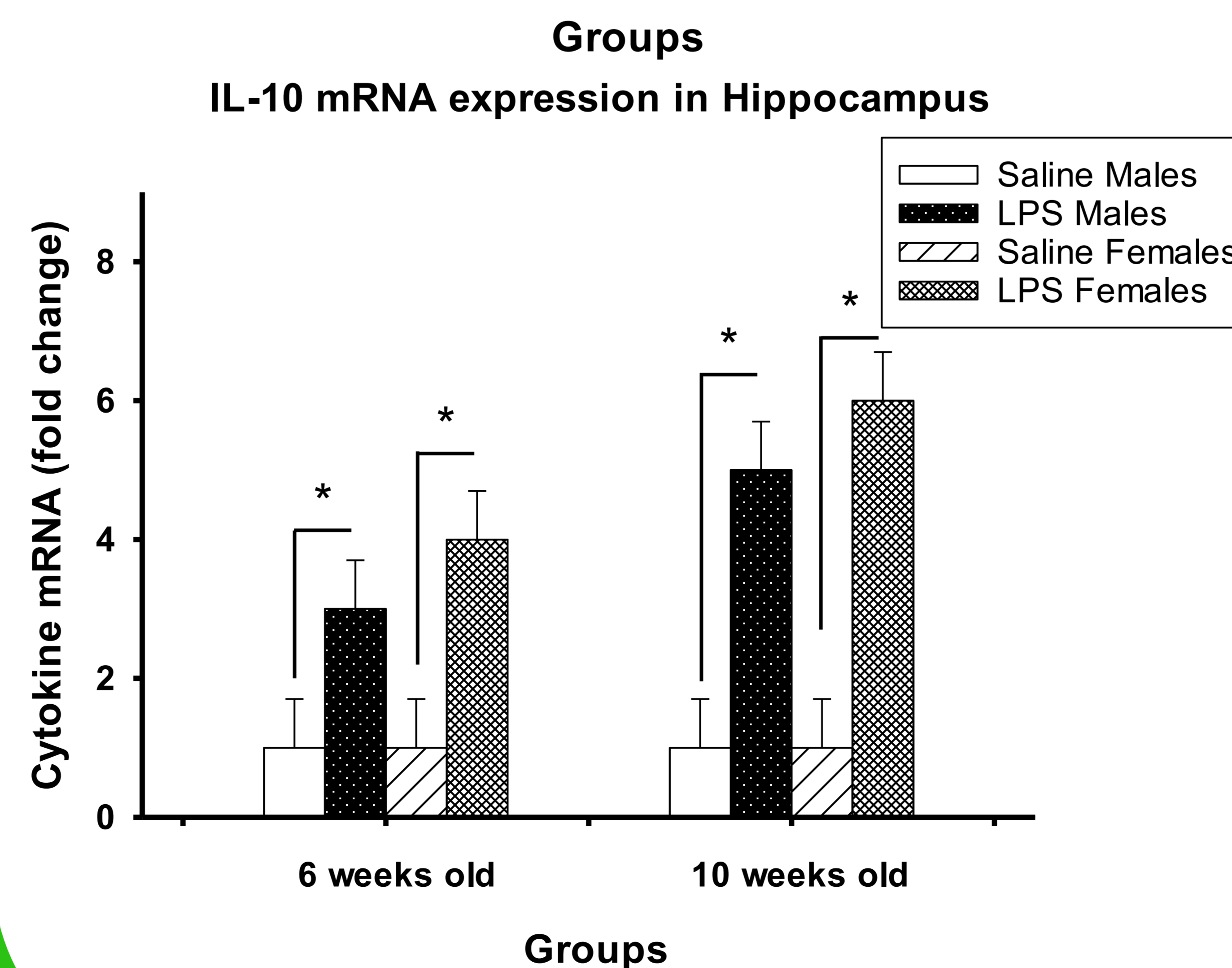
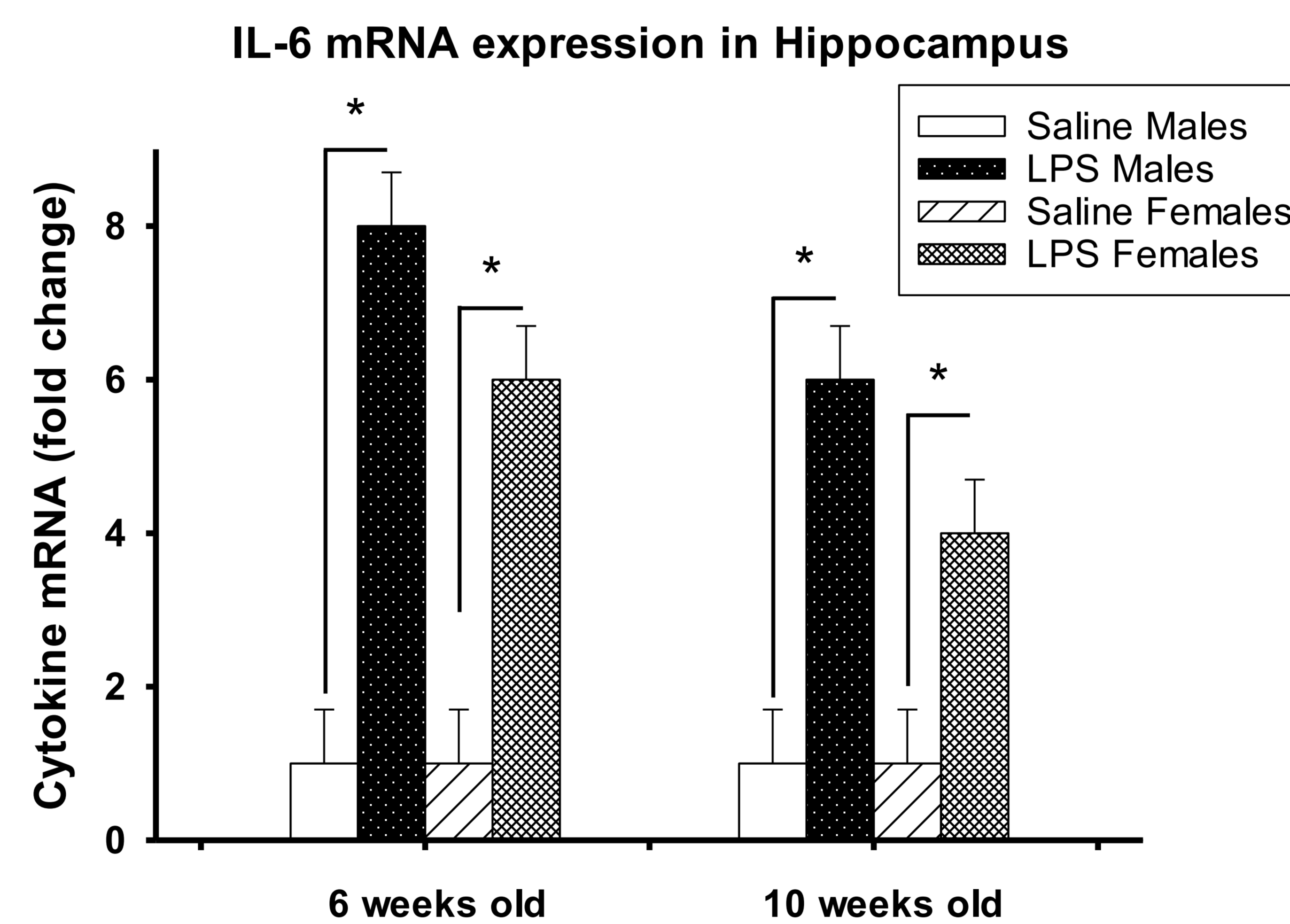
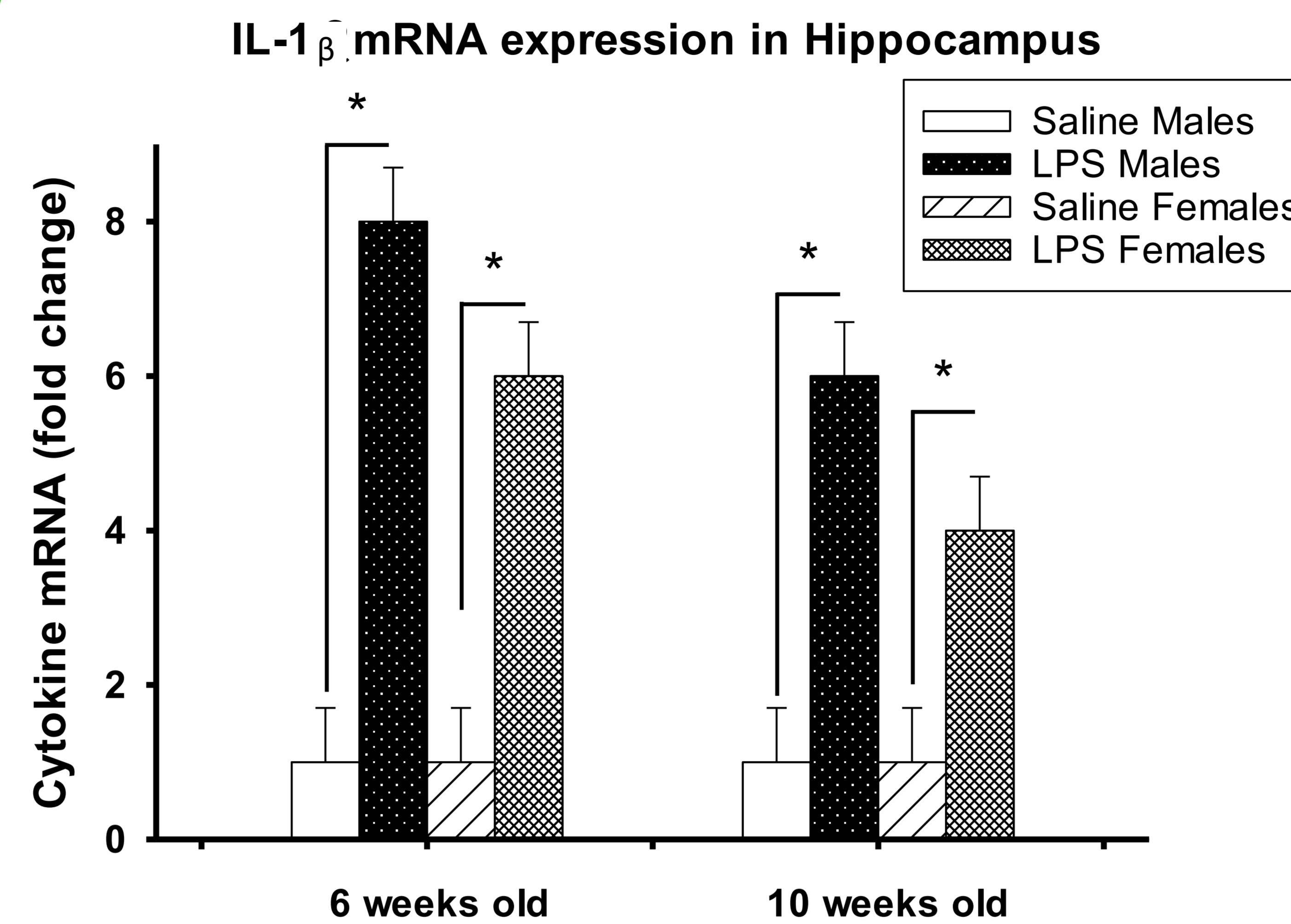
Introduction

- ◆ During pubertal development, sexual maturity is attained and the brain is reorganized.
- ◆ Exposure to stressors during puberty can cause enduring alterations in the brain and behavior.
- ◆ This study examines age and sex differences in cytokine mRNA expression after exposure to an immune challenge (lipopolysaccharide, LPS).

Hypothesis

- ◆ LPS exposure during puberty will result in greater pro-inflammatory cytokine mRNA expression than adults, and females will have greater expression than males.

Results



Methods

51 mice injected with LPS or saline at 6 or 10 weeks

Euthanasia and brain extraction

Cryostat brain slicing

Tissue punching

RT-qPCR

Conclusion

- ◆ Pubertal mice treated with LPS express higher pro-inflammatory cytokine mRNA levels than adults.
- ◆ Females express higher levels of pro-inflammatory and lower levels of anti-inflammatory cytokine mRNA levels than males