



# Don't stress play time! On the interaction of social play and glucocorticoids

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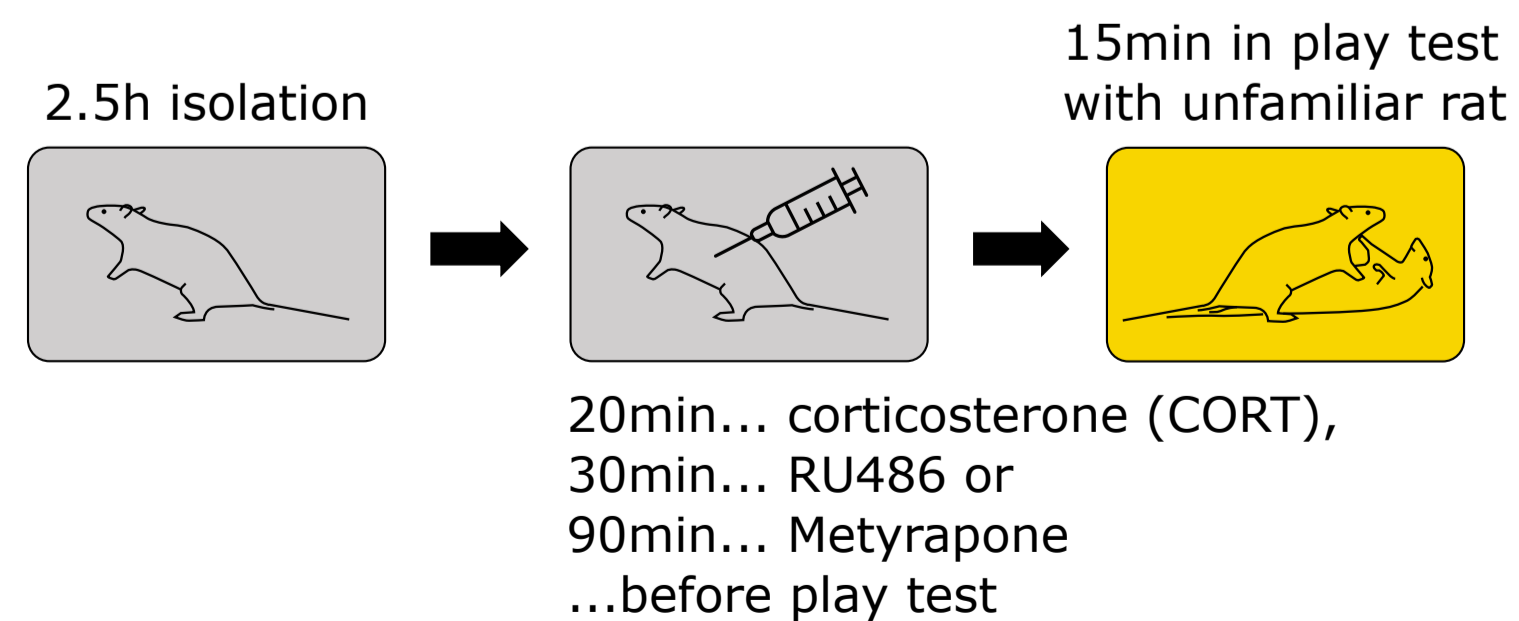
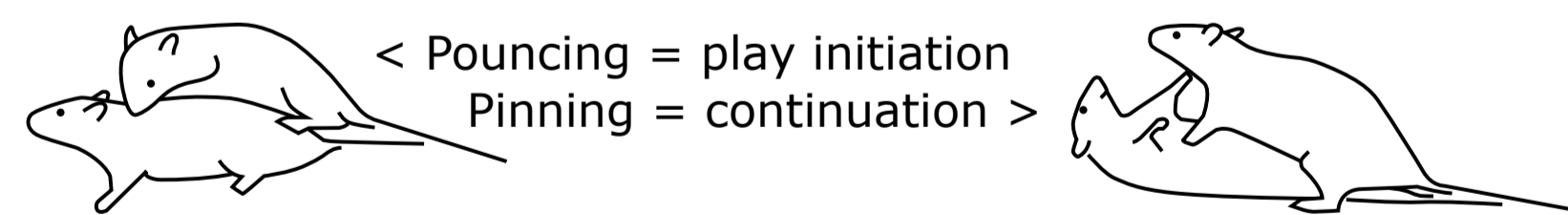
## Introduction

Social play is essential for social, cognitive and emotional development and is initiated in the absence of severe stress.

Stress & synthetic stress hormones -the most prescribed anti-inflammatory drugs worldwide- cause psychological problems in children.

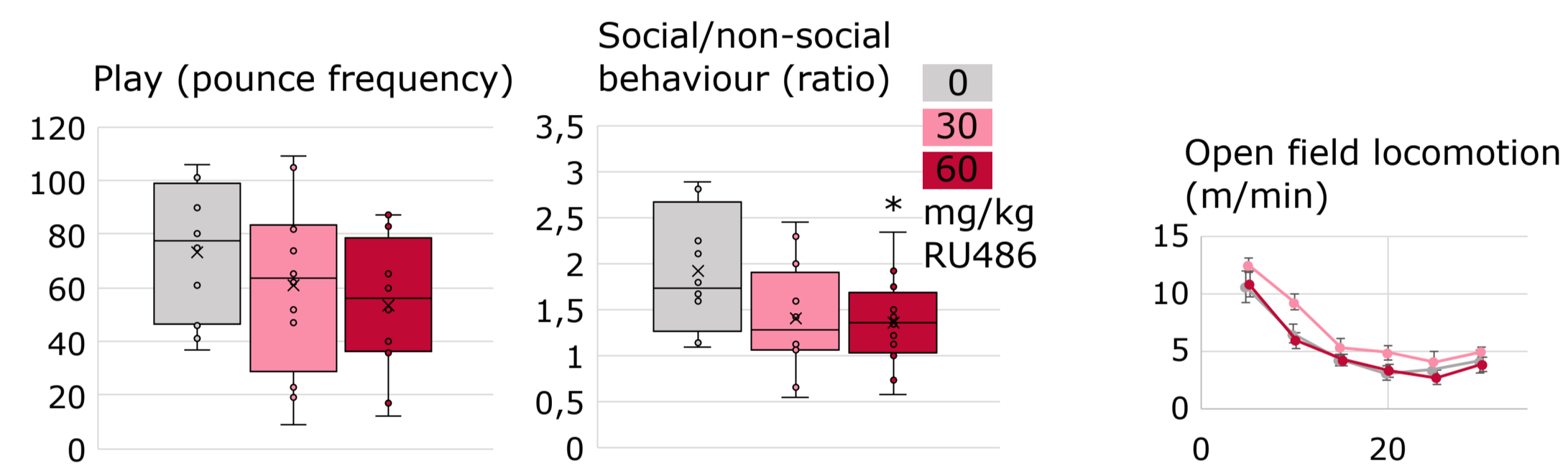
The influence of stress and stress hormones (glucocorticoids) on play behaviour is inconclusive.

## What is the role of glucocorticoids in social play behaviour in juvenile rats?

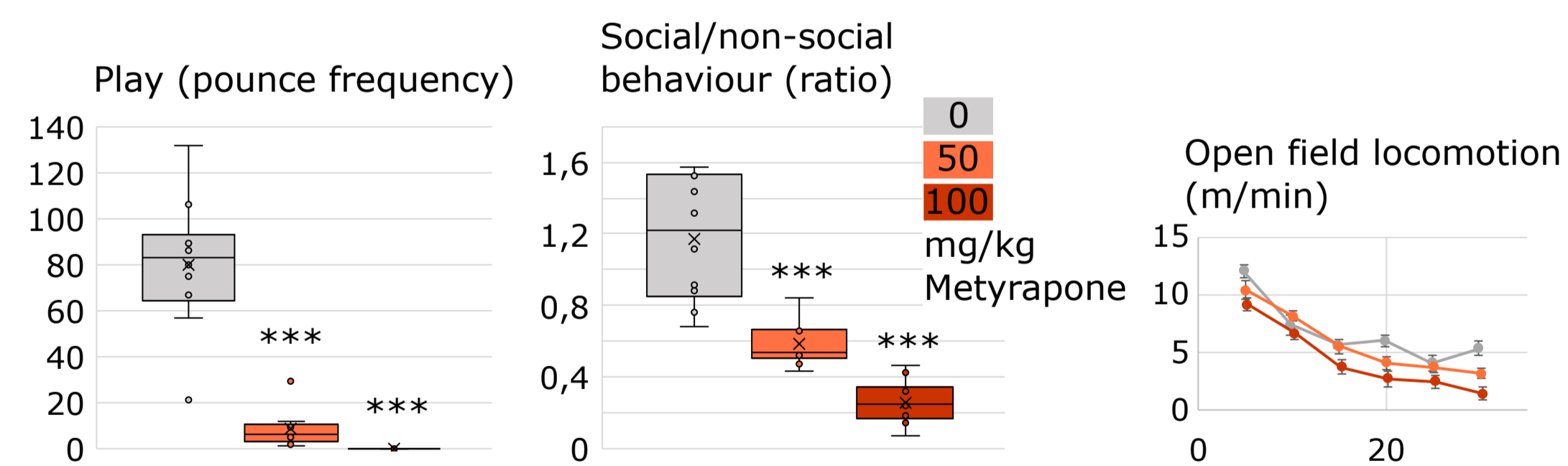


## Behaviour play test after:

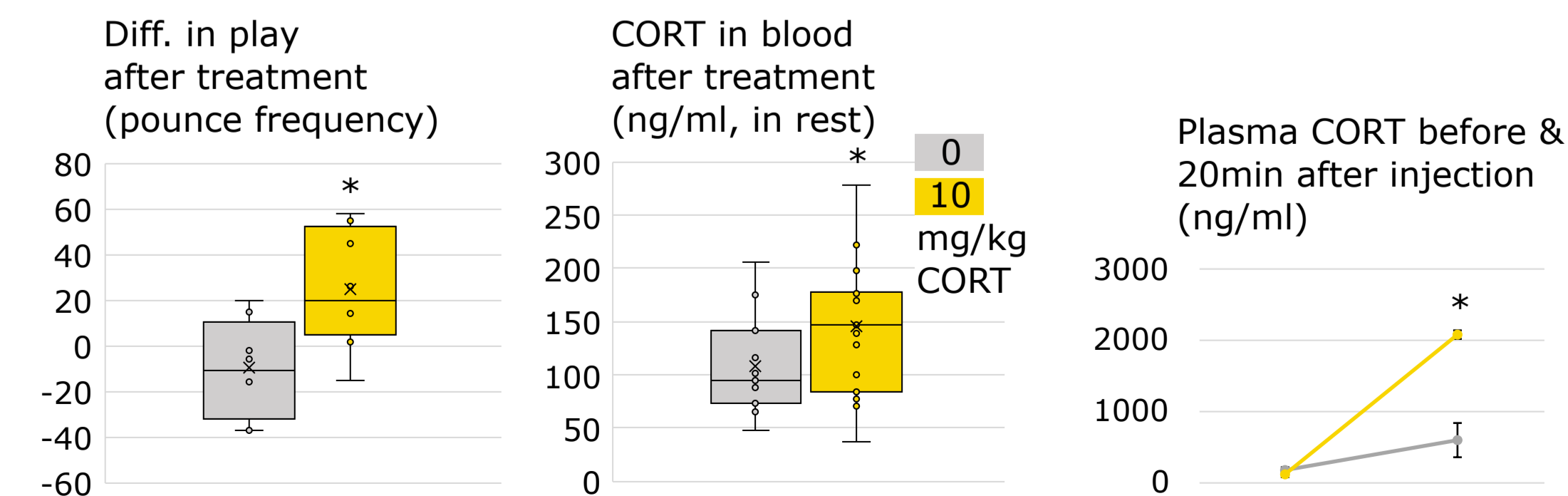
Glucocorticoid receptor antagonist: RU486



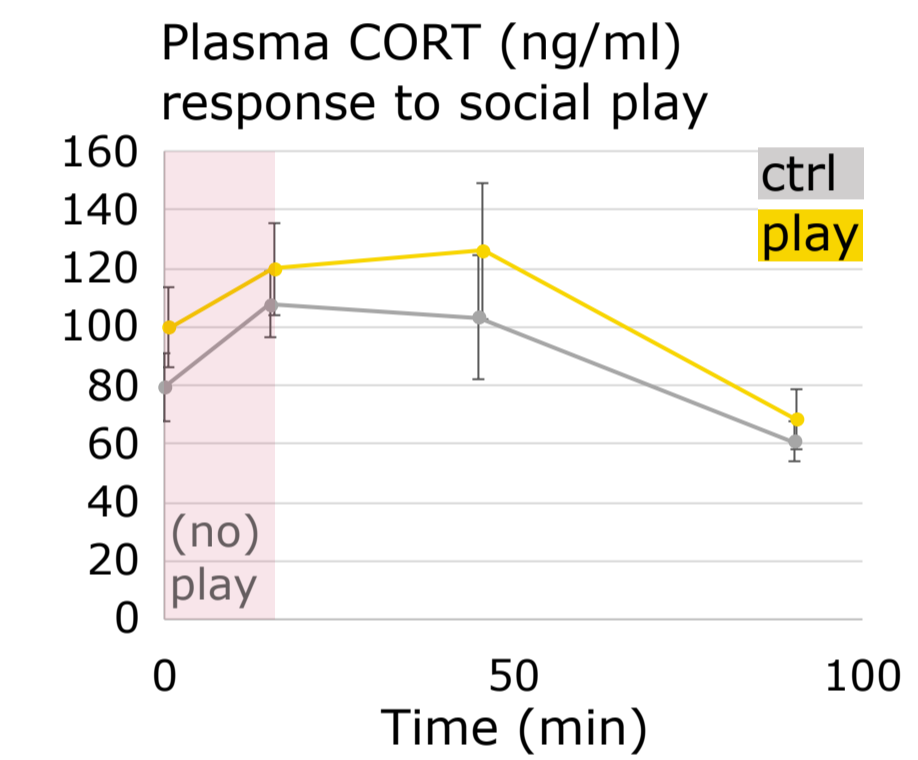
CORT synthesis inhibitor: Metyrapone



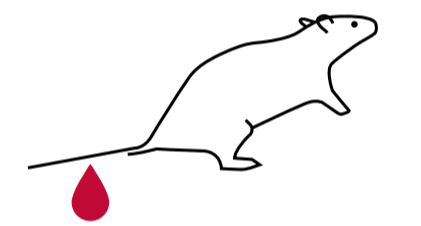
Chronic CORT treatment (3x in 8 days)



## Endogenous CORT response



Plasma CORT obtained with tail incision & analyzed with radioimmunoassay



## Conclusion

- GR-antagonist (RU486) Play
- CORT synthesis inhibitor (Metyrapone) Play
- Chronic CORT Play

Plasma CORT isn't naturally heightened during social play. This could explain why CORT and RU486 only subtly affect social play.

The working mechanism of Metyrapone on social play is not clear.

By blocking the other CORT receptors (MRs), we can elucidate if social play is prevented by lack of CORT binding, or if Metyrapone influences social play via another mechanism.