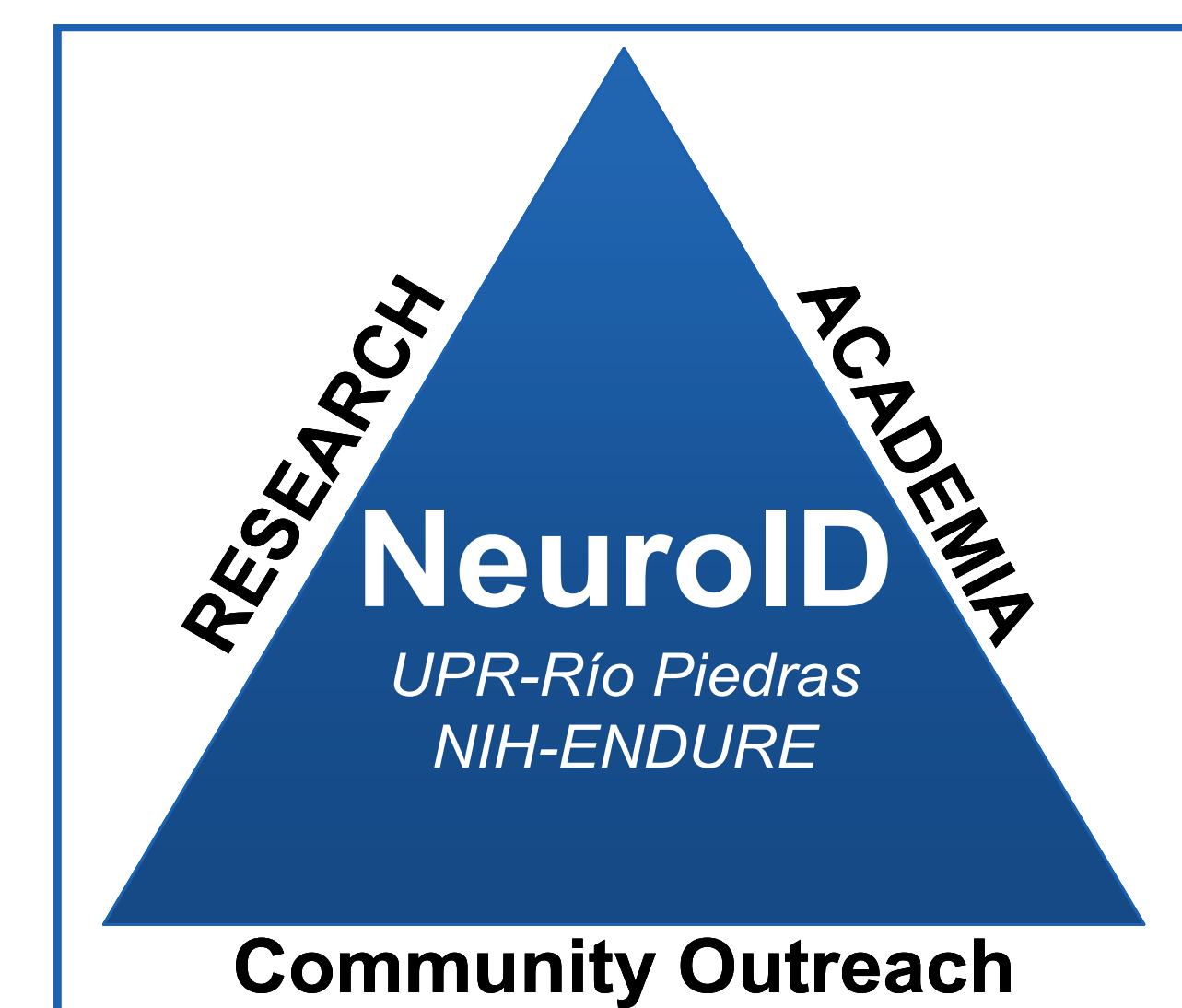




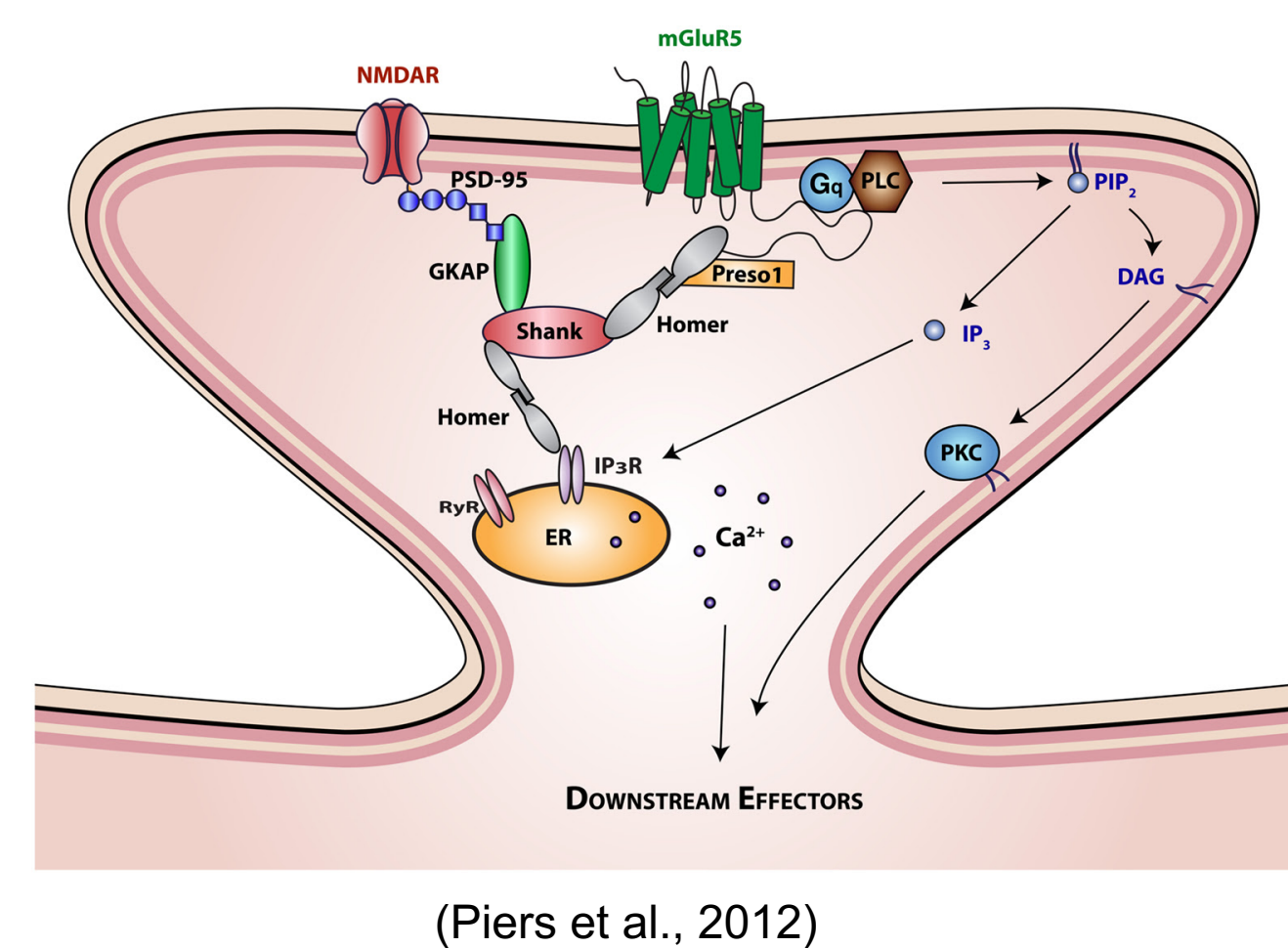
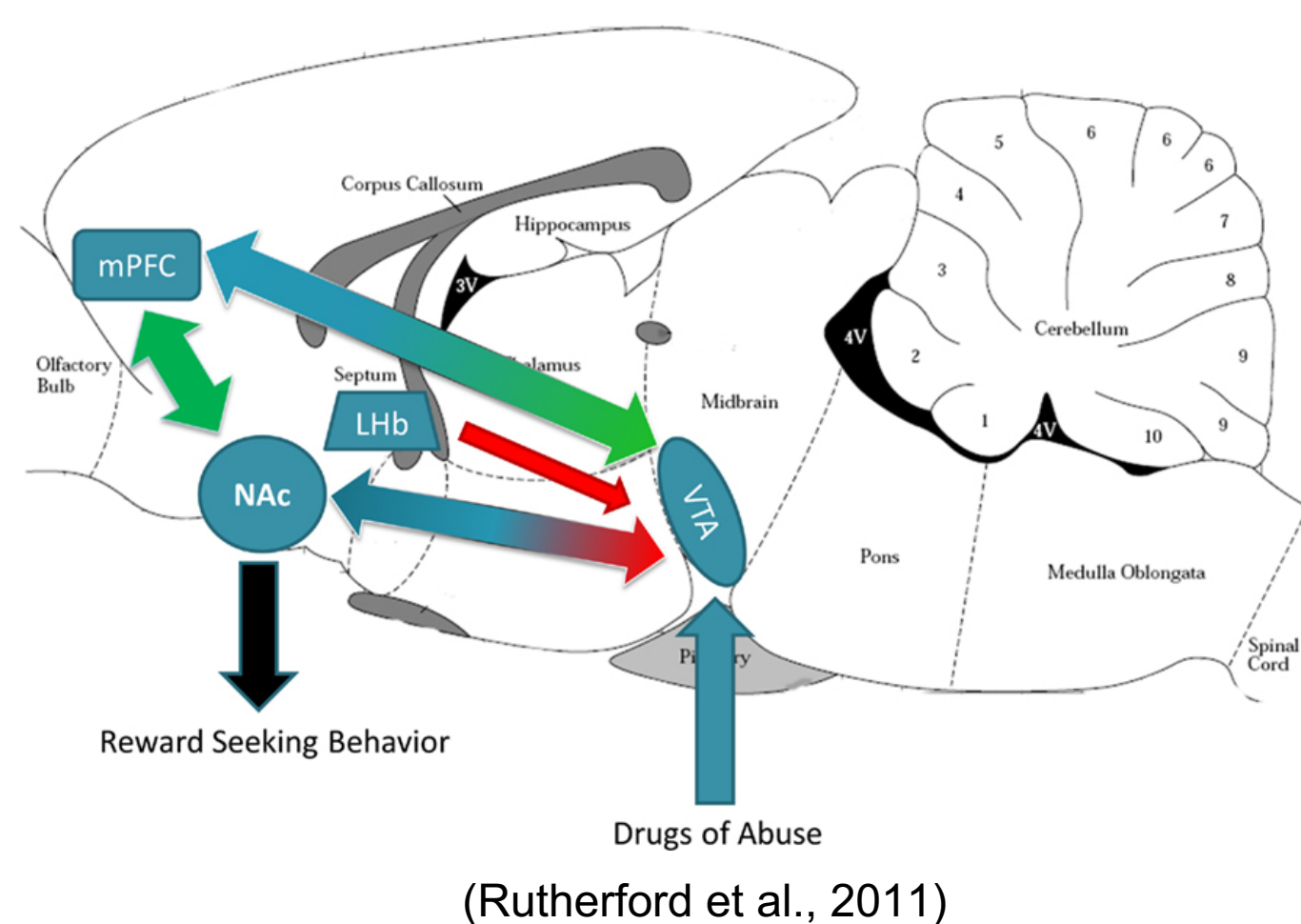
Effects of blockade of PKC within the nucleus accumbens shell on cocaine sensitization

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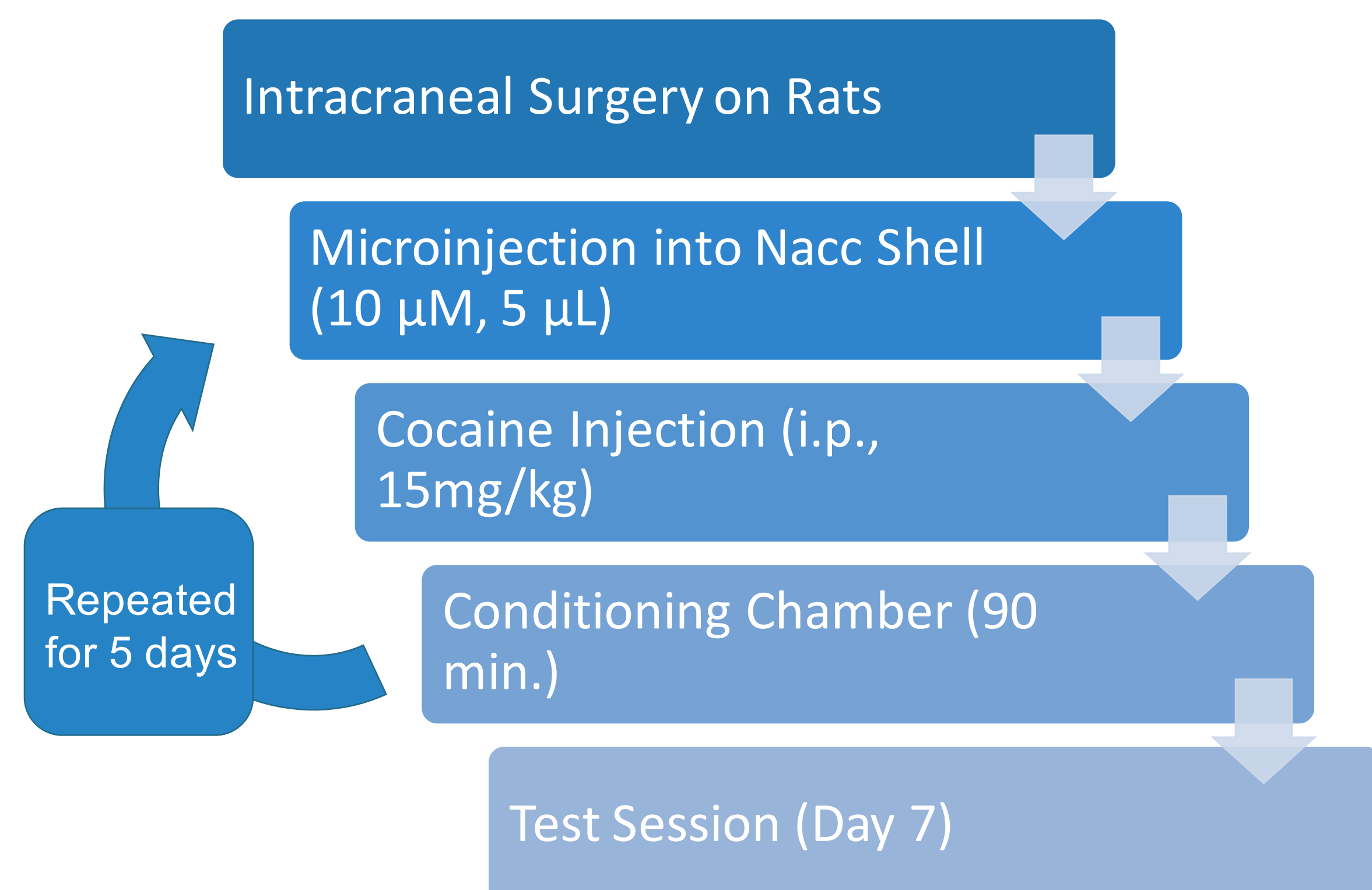


Introduction

- Purpose: elucidate the mechanisms through which Metabotropic glutamate receptor 5 (mGluR5) mediates cocaine sensitization.
- mGluR5 has been described as a critical component in cocaine seeking behavior.
- Studies show that protein kinase C (PKC) modulates different molecular pathways associated with the reinstatement of cocaine seeking behavior and conditioned place preference.
- Hypothesis: inhibiting the activity of PKC will decrease the cocaine sensitization characterized by increased locomotor activity on environment elicited cocaine conditioning.

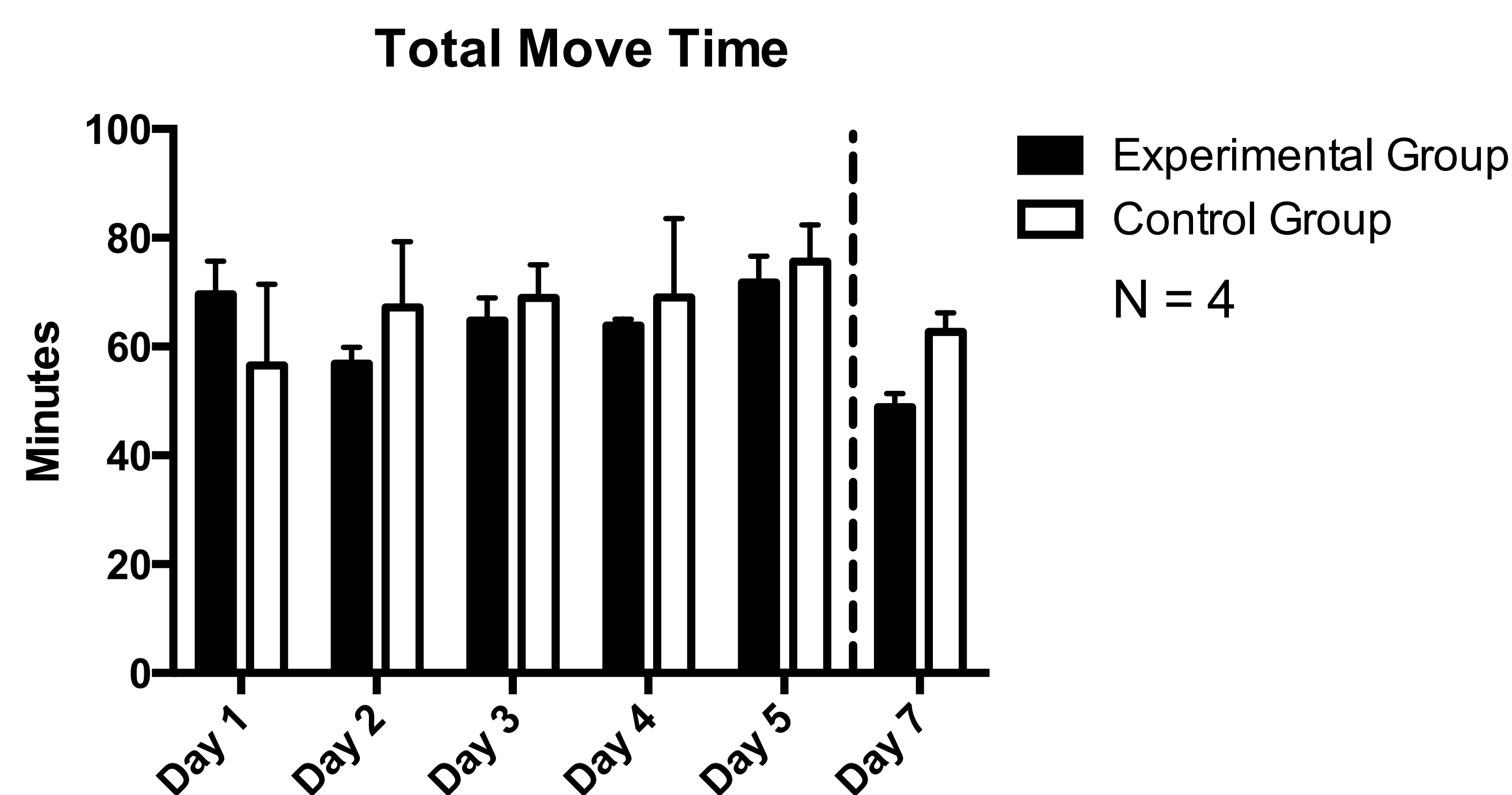


Methods

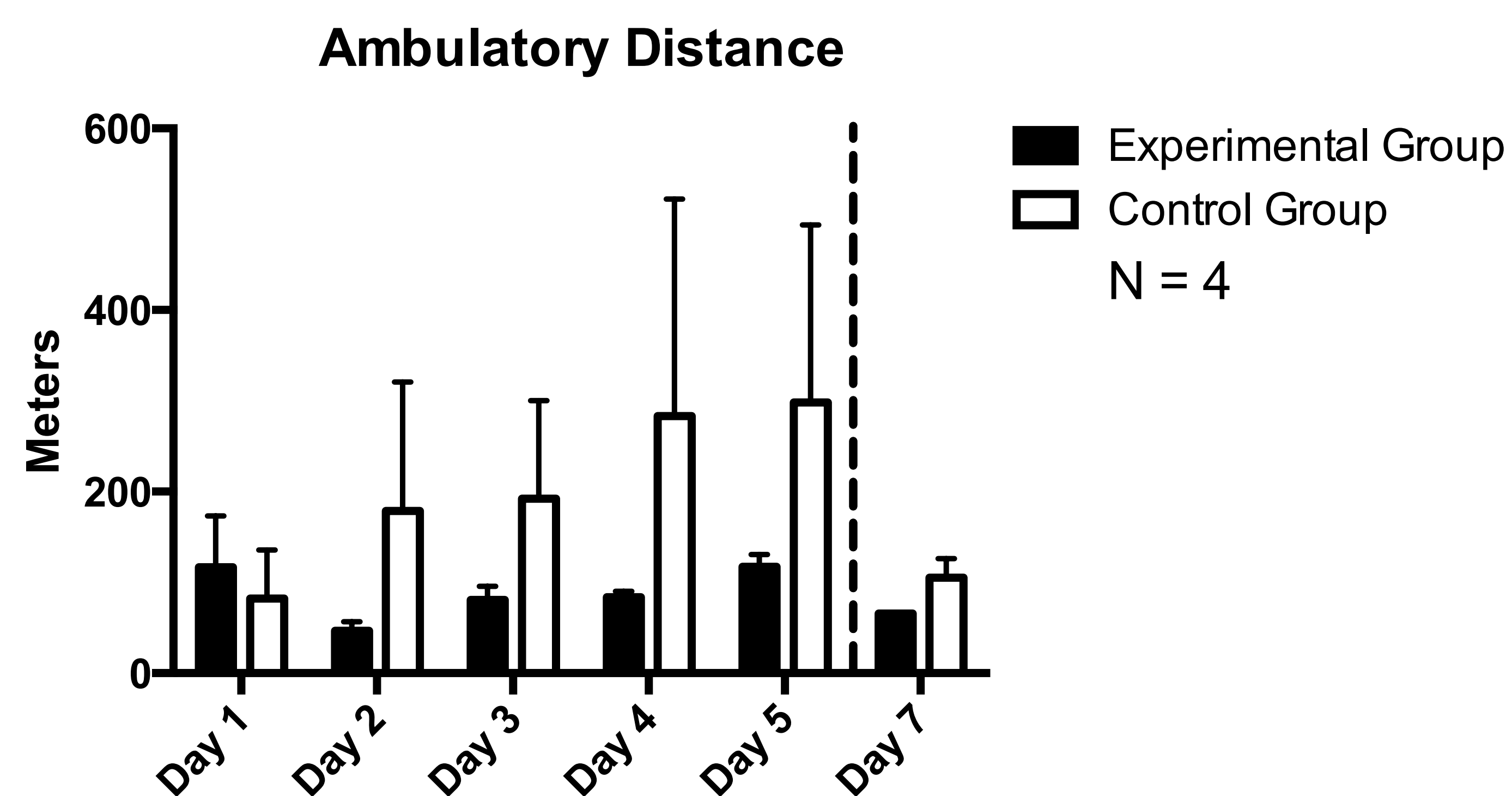


Results

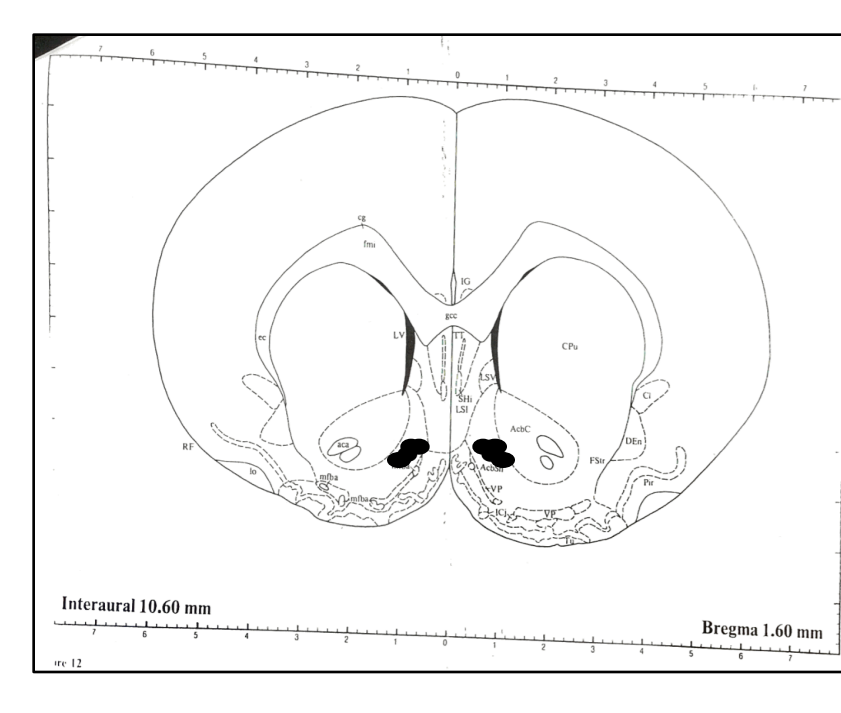
Time spent moving in chamber



Distance moved in chamber



Histology



Surgery coordinates: AP +3.5, ML +/- 1.0, DV -5.3

Discussion

Histological and locomotive activity data were analyzed in order to determine if inhibiting the activity of PKC within the Nucleus Accumbens Shell decreased cocaine sensitization. The preliminary data show that inhibiting PKC protects the animals from cocaine sensitization.

Conclusions

- Emerging evidence of the overlapping mechanisms of memory and addiction is being confirmed due to the association of the environmental cues and the cocaine effects in this study.
- The results under analysis could be a novel and vital component in further studies seeking cocaine addiction treatments.

Future Experiments

A future direction would be to repeat the experiment and increase the number of subjects studied. Another future experiment could be to measure the amount of PKC in the Nucleus accumbens shell after cocaine sensitization and to see if there is a difference between abundance of phosphorylated PKC and unphosphorylated PKC.

Acknowledgments

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