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Differential molecular and behavioural responses to L-DOPA in mice injected with 6-hydroxydopamine in the striatum or in the medial forebrain bundle

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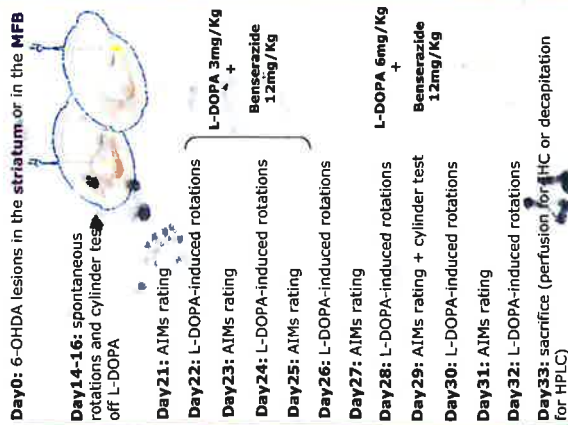
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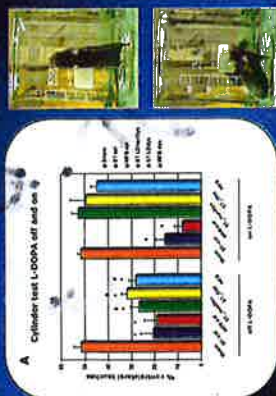
INTRODUCTION

Unilateral lesions of the nigrostriatal dopamine (DA) pathway with 6-hydroxydopamine (6-OHDA) can be used to obtain a model of Parkinson's Disease in the mouse. In the present study we examine two types of unilateral 6-OHDA lesions in the mouse for their ability to induce stable motor deficits and a supersensitive molecular and behavioural response to L-DOPA.

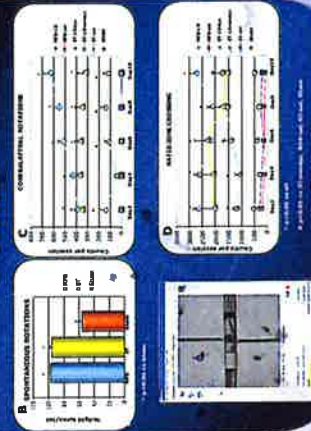
EXPERIMENTAL DESIGN



CYLINDER TEST



ROTATIONS and HORIZONTAL ACTIVITY

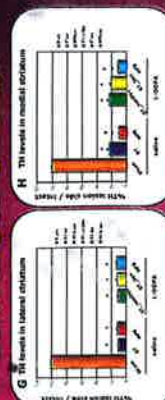


ABNORMAL INVOLUNTARY MOVEMENTS



IMMUNOHISTOCHEMISTRY

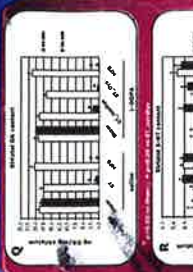
DOPAMINE DENERVATION



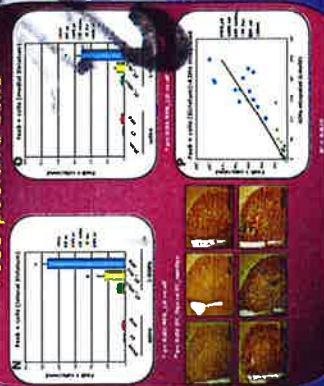
TH positive cells in the striatum



BIOCHEMISTRY



FosB positive cells



CONCLUSIONS

- mice with 6-OHDA lesion in the MFB are very susceptible to L-DOPA-induced dyskinesia (LID). Molecular markers of LID are highly expressed and evenly distributed throughout the striatum.

- mice with 6-OHDA in the striatum provide a model where the susceptibility to LID differs among animals. Molecular changes associated with LID only occur in the highly denervated striatal subregions.

ACKNOWLEDGEMENTS

