THE ROLE OF CREB/BDNF/TRK B SIGNALING IN THE ZINC DEFICIENCY MODEL OF DEPRESSION

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INTRODUCTION

Aim:
To examine whether 4-week deprivation of trace element zinc induces changes in the protein levels of pCREB, BDNF and TrkB in the prefrontal cortex (PFC) and hippocampus (Hp) of rats.

Animals:
Male Spraque-Dawley rats, 5-week old

Diet:
50 mg zinc/kg, control group
3 mg zinc/kg, zinc deficient group (ZnD4) administered for 4 weeks

Method:
Western blotting

RESULTS

Fig. 2 The effect of 4-week dietary deprivation of zinc on pCREB protein level in the rat prefrontal cortex.

Fig. 3 The effect of 4-week dietary deprivation of zinc on pCREB protein level in the rat hippocampus.

Fig. 4 The effect of 4-week dietary deprivation of zinc on BDNF protein level in the rat prefrontal cortex.

Fig. 5 The effect of 4-week dietary deprivation of zinc on BDNF protein level in the rat hippocampus.

Fig. 6 The effect of 4-week dietary deprivation of zinc on TrkB protein level in the rat prefrontal cortex.

Fig. 7 The effect of 4-week dietary deprivation of zinc on TrkB protein level in the rat hippocampus.

CONCLUSIONS

4-week deprivation of zinc

Depressive like behavior (the previous studies)

Hippocampal BDNF signaling deficit

Zinc deficiency model of depression

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