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Title: PROTECTIVE EFFECT OF EXOGENOUS MELATONIN IN RATS AND THEIR OFFSPRING ON THE GENOTOXIC RESPONSE INDUCED BY THE CHRONIC CONSUMPTION OF ALCOHOL DURING PREGNANCY

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## ACCEPTED MANUSCRIPT

PROTECTIVE EFFECT OF EXOGENOUS MELATONIN IN RATS AND THEIR OFFSPRING ON THE GENOTOXIC RESPONSE INDUCED BY THE CHRONIC CONSUMPTION OF ALCOHOL DURING PREGNANCY

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#### Highlights

- Chronic alcohol consumption increased DNA damage in the blood and liver of mothers.
- Maternal alcoholism increased genotoxicity in neonates' blood, liver, and brain.
- Melatonin reduced ethanol-induced genotoxicity in the blood of mothers and neonates.
- Melatonin reduced DNA damage in the liver of mothers.
- Melatonin reduced DNA injury in the male neonates' liver and in the brain of female offspring.

#### ABSTRACT

Maternal alcoholism can induce serious injuries in embryonic and fetal development. The metabolism of alcohol increases the production of free radicals and acetaldehyde, molecules capable of reacting with DNA, impairing organogenesis. Melatonin is a powerful antioxidant

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