

## عنوان مقاله:

Molecullar and biochemical effect of alcoholic extract of *Alpinia galanga* on rat spermatogenesis process

## محل انتشار:

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## خلاصه مقاله:

Background: *Alpinia galanga* (*A. galanga*) belongs to the Zingiberaceae family has anti-oxidant effects in animals and humans body and often is used as medicament or part of medicaments in Asian folk medicine for various applications. Objective: The objective of this study was to investigate the molecular and biochemical influence of alcoholic extract from the rhizomes of *A. galangal* on the spermatogenesis process in male rat. Materials and Methods: Forty five Wistar male rats were divided into three groups, control (n=15) and two tested groups (n=30). Alcoholic extract (5%) of plant was given by oral route at doses of 100 and 300 mg/day for 56 days and spermatogenesis parameters, hormone changes and expression level of the cAMP-responsive element modulator (CREM) gene were assessed. Results: Methanol extract of *A. galanga* increased serum testosterone level significantly in both treated groups in comparison with control group ( $p < 0.05$ ). Besides, the percentage of sperm viability and motility in both tested groups were significantly increased. Follicle stimulating hormone FSH hormone, morphology and weight were affected in both treated groups. With 300 mg/day an increase in sperm count was observed. Sperm motility was increased in two treated groups whereas testis weight was decreased in treated groups. Real time analysis of treated cells of testis showed increase level of mRNA related to CREM gene involved in spermatogenesis process after 56 days induction. Conclusion: It is concluded that application of ethanolic extract of *A. galanga* significantly increased sperm percentage, viability, motility and testosterone hormone. This suggested that .this plant may be promising in enhancing sperm healthy parameters

## کلمات کلیدی:

16TA. galanga, Sperm, Spermatogenesis, Rat, Testis, Testosterone

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