

## Evaluation the effect of neuropeptide of Bombesin on modulation of anxiety reaction in mice

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### Abstract

**Background & Objective:** Bombesin (BBS) is a tetra-decapeptide amino acid neuropeptide in central nervous system within a variety of mammalian species. Also it has many biological effects that may be effective in modulation of anxiety. The aim of present study was to determine the effect of BBS on modulation anxiety reaction in elevated plus maze (EPM) in mice.

**Materials & Methods:** 60 male mice (25-30 g) were used in this study. Bombesin in doses of 1.25, 2.5, 5, 10 and 20  $\mu\text{g}/\text{kg}$  IP or saline was injected in different groups 10 min before of evaluation. Five minutes later for increase of activity, animal was put in black box for 5 min. Then each animal in regulated time transferred to standard elevated plus-maze and the time spent in the open arms and the ratio of open arm entries during 5 min, were measured. The data analyzed by using ANOVA and Tukey test.

**Results:** BBS in dose dependently manner increase which the anxiety reaction in mice. Animals had spent lower time and ratio of open arm entries in compare with control group significantly ( $P < 0.05$ ) and BBS only in dose of 1.25  $\mu\text{g}/\text{kg}$  did not showed significantly effect.

**Conclusion:** This study indicated that Bombesin in dose dependently manner have important role in modulate anxiety reaction in EPM in mice.

**Key Words:** Anxiety, Bombesin, Elevated plus maze, Mice