

## عنوان مقاله:

Prooxidant-Antioxidant Balance and Antioxidant Properties of Thuja orientalis L: A Potential Therapeutic Approach for Diabetes Mellitus

## محل انتشار:

سیزدهمین کنگره ی پژوهشی سالیانه دانشجویان علوم پزشکی شرق کشور (سال: 1398)

تعداد صفحات اصل مقاله: 1

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## خلاصه مقاله:

**BACKGROUND AND OBJECTIVE:** Diabetes mellitus (DM) is a major health problem with an increasing global prevalence. It is usually associated with an imbalance between pro-oxidant mechanisms and antioxidant defenses, contributing to oxidative-stress, and this leads to an increased susceptibility to endothelial dysfunction, atherosclerosis, insulin-resistance and impaired-pancreatic  $\beta$ -cell function. We have assessed the Prooxidant-antioxidant balance (PAB) and anti-hemolytic effect of Thuja orientalis L using the PAB assay and the analysis of hematological markers. **MATERIALS AND METHOD:** The antioxidant and anti-hemolytic activity of Thuja orientalis was evaluated using the PAB assay and the inhibition of RBC hemolysis using the hydrogen peroxide hemolysis test. The percentage of anti-hemolysis was calculated from the ratio of the measurements  $(A-B)/B \times 100$ . **FINDING:** Our results showed that the antioxidant effect of Thuja orientalis L. was greater in water than in ethyl-acetate, ethanol and methanol extract, respectively. We also observed its anti-hemolytic effect, which was higher in water, than in ethyl-acetate, methanol and ethanol extract, respectively. In particular our data showed that the H<sub>2</sub>O<sub>2</sub>-induced RBC hemolysis was inhibited in a dose-dependent manner. **CONCLUSION:** We demonstrated the antioxidant and anti-hemolytic effect of Thuja orientalis L. extracts in human serum and RBC, showing its potential property of reducing free radicals supporting further investigations to assess its functional role in larger samples size and in vivo models, as a potential antioxidant agent.

## کلمات کلیدی:

Antioxidant; Diabetes mellitus (DM); PAB assay; Thuja orientalis L; anti-hemolytic; therapeutic approaches

## لینک ثابت مقاله در پایگاه سیویلیکا:

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