Institute of Medicinal Plants
National Research and Technology Network of Medicinal Plants
11th National Congress on Medicinal Plants
29 & 30 May 2024
Yazd, Iran

**Poster Presentation ID: 299**

# Isolation, purification and structure elucidation of compounds of *Apium graveolens*

**Mahdieh Kurepaz-Mahmoodabadi[1], Zahra Tofighi[2], Saied Goodarzi[1], Kosar Karkobzadeh[2], Marjan Nikan[1]**

[1]*Medicinal Plants Research Center, Faculty of Pharmacy, Tehran University of Medical Sciences, Tehran, Iran*
[2]*Department of Pharmacognosy and Medicinal Plant Research Center,Faculty of Pharmacy, Tehran University of Medical Sciences, Tehran, Iran*
*E-mail: m-mahmoodabadi@farabi.tums.ac.ir*

ARTICLE INFO

*Keywords:*
*Apium graveolens*
Chrysovariol
Diosmetin

ABSTRACT

The celery plant, or *Apium graveolens*, is an herbaceous, biennial plant of the umbellifera genus, which is a relatively large genus of flowering plants. In traditional medicine, good effects of the fruit have been seen and scientific evidence has shown that it can be effective in preventing cancer due to its antioxidant properties. Due to the numerous side effects caused by the use of synthetic drugs, much attention has been paid to the use of herbal drugs in the last decade. Since there have been few studies on the fruit extract of this plant, it was decided to separate and identify its compounds. Plant *A. graveolens* was collected in May 2018 from Tehran. The seeds of the plant were dried and ground, and extracted by methanol and water. Total extract was fractionated by solvents of hexane, chloroform, ethyl acetate and methanol. The compounds in ethyl acetate fraction and methanol fraction were separated and purified by different methods of chromatography. Eight pure compounds were isolated from this plant, and these compounds were in the category of flavonoid and coumarin compounds. Finally, with $^{1}$H-NMR methods, three of the isolated compounds were fully identified. Identification of other compounds requires additional spectra including 2D NMR. The isolated compounds called 4`-hydroxy flavonol 3-o-glycuside, chrysovariol, and diosmetin, respectively. According to the special structure of this group of compounds, *Apium graveolens* has very diverse properties that can be used in the auxiliary treatment of many diseases.

## References

**1.** Kooti W, Ali Akbari S, Asadi-Samani M. A review on medicinal plant of *Apium graveolens*. *Adv. Herb. Med*. 2014: 1(1): 48-59.
**2.** Mozaffarian V. A dictionary of Iranian plant names. Tehran: Farhang Moaser. 2022.