

POSTER PRESENTATIONS

INVESTIGATION OF THE CYTOTOXIC EFFECTS OF *Triticum durum* EXTRACTS ON A549 CELLS

G. Yılmaz¹; T. Kolaç²; M. Kürkçüoğlu³; F. Özdemir¹

¹Department of Biochemistry, Faculty of Pharmacy, Anadolu University, Eskişehir,
Türkiye.

²Health Services Vocational School, İnönü University, Malatya, Türkiye.

³Department of Pharmacognosy, Faculty of Pharmacy, Anadolu University, Eskişehir,
Türkiye.

In this study, *Triticum durum* samples collected from Malatya, Türkiye, were used. Methanolic extracts were prepared from the powdered stem and spike parts of *Triticum durum*.

The A549 cell line, a widely used human non-small cell lung cancer (NSCLC) model derived from lung adenocarcinoma, was employed to evaluate the cytotoxic potential of these extracts. This cell line is commonly used in cancer research to assess cytotoxic, apoptotic, antioxidant, and antiproliferative effects and is considered a suitable *in vitro* model for investigating cellular proliferation, oxidative stress, and drug resistance mechanisms.

Triticum durum (durum wheat) is a cereal species rich in phenolic compounds, carotenoids, and other antioxidant molecules. In recent years, the cytotoxic potential of plant-derived extracts against cancer cells has attracted increasing interest in cancer research. Therefore, the present study aimed to comparatively evaluate the cytotoxic effects of *Triticum durum* stem and spike extracts on the A549 lung cancer cell line.

The cytotoxic effects of the extracts were evaluated using the MTT assay. The IC₅₀ value of the *Triticum durum* stem extract could not be determined after 24 hours of treatment; however, at 48 hours, it was calculated as 0.78 mg/mL. For the *Triticum durum* spike extract, the IC₅₀ values were determined to be 0.48 mg/mL at 24 hours and 0.32 mg/mL at 48 hours. Among the two extracts, the spike extract exhibited a greater reduction in A549 cell viability than the stem extract.

These preliminary findings suggest that *Triticum durum* spike extracts possess considerable cytotoxic potential against A549 lung cancer cells and warrant further investigation as a potential source of anticancer bioactive compounds.