

Evaluation of Hypolipidemic Effect of *Taraxacum Mongolicum* in Human HepG2 Cells

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Hyperlipidemia has been known to be associated with increased atherogenesis and cardiovascular risk by contributing to mechanical endothelial injury and dysfunction. Consequently, the hypolipidemic and antiobesity effects in animals and humans have become an important issue for molecular nutrition and food research. *Taraxacum mongolicum* is a herb for diuretic, anti-oxidant, anti-inflammatory, and treatment of hypoovarianism, infertility and menopausal syndrome. Whether *Taraxacum mongolicum* can possess hypolipidemic effect is not known. The study was investigated the hypolipidemic effect and potential mechanism of *Taraxacum mongolicum* extracts. To evaluate the bioactive compounds, we successively crude extracted the *Taraxacum mongolicum* with 95% ethanol (95E), 50% ethanol (50E), and Water (H₂O). HepG2 cells were treated with different *Taraxacum mongolicum* crude extracts concentration, and a decrease of fat level was detected by Oil Red O staining after 48 hr. Among these crude extracts, 50E was the most effective *Taraxacum mongolicum* ingredient that reduces fat levels in our assay. The results revealed that 50E extract possessed 76.6 % hypolipidemic effect at the concentration of 100µg/ml significant ($p < 0.01$). So we performed partition fractionation of 50E extract.

The four fractions of 50% ethanolic extract (50E) that its n-hexane (HxF), dichloromethane (DcF), ethyl acetate (EaF), and water (WtF) were prepared for hypolipidemic evaluation. Among these four fractions have no cytotoxicity by the MTT method at the concentration of 100µg/ml. HxF showed strong hypolipidemic activity, and that DcF and EaF was lesser effective. These results suggested that some crude extracts possessed hypolipidemic activity potentiality. In future, we investigate active principle(s) from these extracts by high-performance liquid chromatography (HPLC) or other separation technology, and identified by LC/Mass. Then was performed to study molecular mechanism. This study of *Taraxacum mongolicum* would be beneficial for application to treatment hyperlipidemia.