



**Effect of extraction solvent on total phenolic content,  
total flavonoid content and antioxidant activity of  
*Cetraria islandica***

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**Abstract :** Oxidative stress may lead to a number of diseases such as atherosclerosis, nephrotoxicity, liver cirrhosis, cancers, diabetes, and Alzheimer disease. Medicinal plants are an important source of antioxidants. Therefore, the antioxidant potential of *Cetraria islandica* was evaluated in this work. The coarse powder of leaf of *Cetraria islandica* was extracted in Soxhlet apparatus, with ethanol (90%) and ethanolic extract of *Cetraria islandica* (EECI) was further processed for phytochemical screening, total phenol content, total flavonoid content, and various in vitro antioxidant assays. The phytochemicals present in EECI were glycosides, carbohydrates, triterpenoids, proteins and amino acids, gums and mucilages, and flavonoids. The content of extractives was 8.3 mg/ml for *Cetraria islandica* extract 70%. The content of polyphenolic compounds in terms of per head acid was the highest for the sample of 70% and amounted to 0.586 mg/ml, and the content of flavonoids per standard solution quercetin - 0,012 mg/ml - also for 70% extract. By DPPH, the percentage of radicals of absorbing activity for 70% of the extract was 86%, and the antiradical activity of 0,417, indicating a sufficiently high rate of *Cetraria islandica* antioxidant activity at such a concentration of ethanol. The tested extracts showed next results by FRAP assay: 486 µmol/L (EE96) 135 µmol/L (EE70) and 158 µmol/L (EE40). ABTS method showed the highest result of the extract of *Cetraria islandica* 40%. The obtained results confirmed the high potential of the extracts as a source of phenolic compounds, in particular flavonoids.

**Keywords :** *Cetraria islandica* phenolic compounds, flavonoids, antioxidant activity, phytochemical screening.

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