Petr Vyhnálek: Screening antiradikálové aktivity drog s obsahem polyfenolů.

Abstract

Recently there has been an increase in knowledge about free radicals causing oxidative stress in living organisms. One of the possible ways to protect them from the free radicals is application of substancies with antioxidant properties, for example tannins. The ability of tannins to scavenge free radicals was the aim of this diploma thesis. The extracts from herba Agrimoniae were prepared by diferent ways (extracted in methanol in heat, extracted in methanol in cold, methanol extract in heat after chlorophyl removal, lyophylized water extract. Their antiradical activity was assessed by a method using DPPH and compared with antiradical activity of a few standards solution (pyrogallol, gallic acid, tannin, epigalocatechin-gallate and catechin.

The highest antiradical activity was found in lyophylized water extract of herba Agrimoniae. It's activity was approximately 1.5 times higher compared with methanol extracts. The chlorophyl was founded to be praticulary responsible for the antiradical activity. The antiradical activity expressed as IC50 decreased in sequence pyrogallol – catechin – tannin – gallic acid – epigallocatechin gallate – lyophylized water extract – methanol extract in heat – methanol extract in cold – methanol extract in heat after chlorophyl removal.