



## **Assessment of Therapeutic Value of Black Costus (*Saussurea lappa*) Using Several Parameters<sup>#</sup>**

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**Abstract:** *Saussurea lappa* plant is known as costus and traditionally used by popular as a treatment for headaches and upper respiratory tract infections. Therefore, this study was aimed to assess the antioxidant and antimicrobial activities of *Saussurea lappa* and highlight its biochemical features that may be of potential clinical significance. Different chromatographic methods including paper and thin layer chromatography were used to detect the presence of flavonoids and phenolic acids in the plant root. Three biological active flavonoids (rutin, quercetin and apigenin) were found in *Saussurea lappa* root extract. Metals content of the root were also determined qualitatively and quantitatively using the inductively coupled plasma technique. The root was screened for antimicrobial activity using disc diffusion technique and appeared to have antibacterial effect against some bacteria (*Escherichia coli*, *Pseudomonas aeruginosa*, *Neisseria gonorrhoea*, *Klebsiella pneumonia*, *Enterobacter aerogenes*) with minimal inhibitory concentration (MIC) ranged from 250-400 µg/ml.

**Keywords:** *Saussurea lappa*, *costus*, *antimicrobial agents*, *phenolic acids*, *MIC*, *flavonoids*.

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