

**A095 Antioxidants activity of *Cyperus papyrus***

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Cyperaceae family contains eight genus. *Cyperus* species is the most famous one of the twenty-one species represented in flora of Egypt (1). Since antique, *Cyperus papyrus* is the most famous species that the natives used for the treatment of eye diseases and ulcer (2).

Due to the little literature information about its biological activity, 80% aqueous ethanolic extract of *C. papyrus* tuber was subjected to antioxidant bioassay using "Radical Scavenging Method" by measuring the decolorizing capacity of extract against the stable DPPH radical (1,1-diphenyl-2-picrylhydrazyl) and the color change can be detected spectrophotometrically at 517 nm (3).

The 80% aqueous ethanolic extract exhibited strong antioxidant activity (95%). Successive partition extraction was done with hexane, ethyl acetate and butanol followed by antioxidant guided assay, showing that the calculated antioxidant activity percentage were 10%, 95% and 65%, respectively.

The ethyl acetate extract (14 g) was subjected to antioxidant bioassay guided successive column fractionation using Silica gel-60. The most antioxidant fraction was further purified on Sephadex LH-20.

Two main fractions (Fr.-I and Fr.-II) showed high antioxidant activity (90 % and 95 % respectively). The two fractions were subjected to two-dimensional-TLC (4) in comparison with authentic samples and to mass spectroscopy (EHMS, Finnigan MAT, 70 eV.). Fr.-I was identified as kaempferol whereas Fr.-II was identified as kaempferol-3-glucoside.

This is the first report of antioxidant activity of *Cyperus papyrus* tuber. Also, the isolation and identification of both kaempferol and kaempferol-3-glucoside, for the first time in this species, are reported here.

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**A096 Neuroprotective effects of antioxidant constituents isolated from *Opuntia ficus-indica* var. *saboten Makino***

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*Opuntia ficus-indica* var. *saboten Makino* (Cactaceae) is a tropical or subtropical plant that has been widely used as folk medicine for the treatment of diabetes, asthma, burn, edema and gastritis (1). The purposes of the present study were to identify antioxidant constituents from fruits and stems of the plant cultivated in Cheju island, Korea, and examine their *in vitro* neuroprotective activities. Using a chromatographic fractionation method, ten chemical constituents were isolated from ethyl acetate extracts of the fruits and stems that showed the most potent antioxidant activities among various extracts. By means of chemical and spectroscopic methods, those were identified as eight flavonoids such as kaempferol (**a**), quercetin (**b**), kaempferol 3-methyl ether (**c**), quercetin 3-methyl ether (**d**), narcissin (**e**), dihydrokaempferol (**f**), dihydroquercetin (**g**) and eriodictyol (**h**), and two terpenoids such as 3-oxo- $\alpha$ -ionol- $\beta$ -D-glucopyranoside (**i**) and roseoside (**j**). Among the isolated compounds, compounds **c-e** and **h-j** were those reported for the first time from fruits and stems of the plant. Compounds **b**, **d** and **g** showed DPPH free radical scavenging activities with IC<sub>50</sub> values of 28, 19 and 31  $\mu$ M, respectively. Compounds **d** and **g** also inhibited iron-dependent lipid peroxidation with IC<sub>50</sub> values of 2.4 and 3.5  $\mu$ M, respectively. In a primary rat cortical neuronal cell culture system, compounds **b**, **d** and **g** inhibited xanthine/xanthine oxidase-induced (IC<sub>50</sub> values of 18.2, 2.1 and 54.6  $\mu$ M, respectively) and H<sub>2</sub>O<sub>2</sub>-induced (IC<sub>50</sub> values of 13.6, 1.9 and 25.7  $\mu$ M, respectively) cytotoxicities. In addition, compounds **d** and **g** inhibited NMDA-induced excitotoxicity by 21 and 33%, respectively, and only compound **g** inhibited growth factor withdrawal-induced apoptosis by 31% at a tested concentration of 3  $\mu$ M. The results suggest that the antioxidant constituents with *in vitro* neuroprotective activities may serve as lead chemicals for the development of neuroprotective agents.

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