Compound	K	UV $_{max}$ (nm)	ESI–MS$^+$ m/z	Ion detected
Catalpol	1,20	200	385,11	$[M+Na]^+$
Deacetylasperulosidic acid	1,41	235	413,10	$[M+Na]^+$
Aucubin	1,75	200	369,12	$[M+Na]^+$
Asperulosidic acid	2,87	235	455,11	$[M+Na]^+$
Harpagide	2,37	200	387,13	$[M+Na]^+$
Leonuride	2,43	200	371,13	$[M+Na]^+$
Galiridoside	2,57	200	369,12	$[M+Na]^+$
Loganin	3,45	235	413,15	$[M+Na]^+$
Acetylharpagide	3,50	200	429,14	$[M+Na]^+$
Ajugoside	3,67	200	413,14	$[M+Na]^+$
Oleuropein	4,29	235	563,19	$[M+Na]^+$
Harpagoside	5,17	278	517,16	$[M+Na]^+$

by UV spectrophotometry and/or electrospray ionization time-of-flight mass spectrometery. Ionization was performed in positive ESI mode. Retention parameters (capacity coefficients K), UV absorbance maxima (λ_{max}), m/z values in TOF-MS mode and m/z identification are given in Table. The elaborated methodology is destined for the quality assessment of pharmaceutical raw materials and dietary supplements of herbal origin.

ASSESSMENT OF CORRELATION BETWEEN THE CONTENT OF POLYPHENOLS, PROANTHOCYANIDINS AND ANTIOXIDANT ACTIVITY IN "IN VITRO" TESTS IN FOOD AND MEDICINAL RAW PLANT MATERIALS

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Proanthocyanidins (OPC) or oligomers of catechins (flavan-3-ols) are among the most widespread forms of polyphenolic compounds of plant origin. According to the U. S. database (USDA Database for the Proanthocyanidin content of selected foods, 2004), proanthocyanidins provide more than 50 % of the daily dietary intake of polyphenols. OPCs are widely used in food dietary supplements, medicinal and prophylactic nutrition and pharmaceuticals, enriched by antioxidants. The aim of this study was to investigate the correlation between the total content of polyphenolic compounds in g of gallic acid equivalent (GAE),

Samples	Polyphenols, % (g GAE/100g)	OPC, %	FRSA, trolox equivalent uM/g
Cinnamon ground	37,97 ± 0,55	5,13 ± 0,09	77750 ± 380
Lingonberry leaves	13,48 ± 0,04	3,98 ± 0,22	2560 ± 130
Green tea powdered leaves	6,65 ± 0,26	0,49 ± 0,10	2570 ± 145
Birch buds	5,58 ± 0,04	0,21 ± 0,02	2555 ± 125
Origanum herb *Herba Origani vulgaris*	3,66 ± 0,04	0,05 ± 0,01	2580 ± 140
Oak bark	3,53 ± 0,06	1,05 ± 0,14	2632 ± 130
Green tea leaves	3,44 ± 0,06	0,22 ± 0,05	2543 ± 145
Marsh cinquefoil stems *Stipes Comari palustris*	2,97 ± 0,06	2,37 ± 0,10	2565 ± 150
Saint-John's wort herb	2,58 ± 0,09	2,02 ± 0,06	2540 ± 135
Cocoa beans	2,39 ± 0,02	1,54 ± 0,09	4375 ± 170
Rose hips	2,21 ± 0,04	0,34 ± 0,06	2580 ± 115
Willow herb *Herba Epilobii*	1,45 ± 0,06	0,13 ± 0,03	2400 ± 140
Walnuts	1,44 ± 0,06	0,11 ± 0,03	2590 ± 120
Nutmeg	1,13 ± 0,04	1,04 ± 0,12	2005 ± 110
Bilberry (wild)	0,99 ± 0,09	0,24 ± 0,05	3300 ± 170
Red kidney beans	0,95 ± 0,14	0,45 ± 0,08	10600 ± 240
Walnuts septum	0,68 ± 0,07	0,42 ± 0,06	1620 ± 100
Red grape peel	0,47 ± 0,07	0,8 ± 0,09	870 ± 95
Sour cherry	0,44 ± 0,05	0,36 ± 0,06	980 ± 90
Viburnum opulus berries	0,43 ± 0,04	0,19 ± 0,03	1150 ± 90
Black currant	0,16 ± 0,03	0,28 ± 0,03	200 ± 70

concentration of OPCs and antiradical activity in tests "in vitro". More than 40 samples of food and medicinal plants were investigated. Total polyphenolics were determined employing Folin-Ciocalteu photometric method, sum of OPC — by Bate-Smith acid butanol assay, free radical scavengic activity (FRSA) — by the DPPH test.

The study was carried out to search the antioxidant ingredients for diet enrichment. No direct correlation between the antioxidant in vitro tests and the content of polyphenolic compounds and proanthocyanidins has been found. On the basis of the above test results the feasibility of using products based on cinnamon, red beans, cocoa and blueberry for diet enrichment has been shown.

IN VITRO CYTOTOXIC AND ANTIOXIDANT ACTIVITIES OF SOME PLANT EXTRACTS ON DIFFERENT HUMAN CANCER CELL LINES

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This study involves a bioassay screening of 22 methanol extracts from 19 plants that are commonly used in Egypt for many purposes based on their ethnic values. The aim of this study is to evaluate the cytotoxic and antioxidant activities of 22 methanol extracts. The methanol plant extracts were tested *in vitro* against four human cancer cell lines (by using MTT method) to determine their cytotoxic effect. The cell viability was examined after 24 h exposure to 100 µg/ml of the extract in the medium. Negative (dimethyl sulfoxide) and positive (*Annonacherimolia* methanol extract) controls were simultaneously used. Moreover, the antioxidant effect was determined using DPPH assay. Extracts showing cytotoxic and antioxidant activities were further subjected to determine their (lethal concentration) LC_{50} and LC_{90} values. Confirmed *in vitro* cytotoxic activity was found in four plant extracts. In HepG-2, *Cympopogonproximus*, *Perseaamericana* fruits and *Vignaunguiculata*seeds showed LC_{50} = 57.4, 13.3 and 56.4, respectively. In A-549, *Perseaamericana* fruits and *Tabernamontanadivaricata* leaves showed LC_{50} = 35.4 and 70.7, respectively. In HT-29, *Cympopogonproximus*, *Perseaamericana* fruits and *Tabernamontanadivaricata* leaves showed LC_{50} = 58.6, 22 and 67.5, respectively. In MCF-7, *Perseaamericana* fruits showed LC_{50} = 54.5. *In vitro* antioxidant activity was confirmed in three plant extracts *Ceratoniasiliqua* leaves, *Perseaamericana* leaves, *Abrusprecatorius* seeds showed LC_{50} = 10.6, 46.5 and 25.7, respectively. 5 Extracts out of the 22 studied methanol extracts exhibited potent antioxidant properties when tested at the concentration of 100 ppm against DPPH. The methanol extract of Persea americana leaves, Abrus precatorius seeds, Ceratonia siliqua leaves had LC50 = 46.5, 25.7, 10.6 µg/ml, respectively Table 4. The methanol extracts of Ocimum basillicum and Hilianthus annuus had lost their activity below 100 ppm. The plants under study may represent promising natural sources for cytotoxic and antioxidant drug discovery.

PHYTOCHEMICAL SCREENING AND ANTIOXIDANT CAPACITIES OF SOME COMPOSITAE PLANTS

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Asteraceae is one of the families which include many members containing phenolic compounds (1). The beneficial effects of many of the phenolics in human health have been attributed to their reactive oxygen and nitrogen scavenging and antioxidant capacity. The consumption of vegetables, fruits and flavonoid-rich beverages has been reported to prevent against neurodegenerative diseases, cancer and aging (2). Phenolic compounds have antioxidant potential due to their tendency to act as reducing agents, hydrogen donors, singlet oxygen quenchers and metal chelators, chelating agents which can bind metal ions, could be added to enhance the activity of natural preservatives in food stuffs (2, 3, 4). In this study, the antioxidant activity of three members of Asteraceae family; *Crepis foetida* subsp. *rhoeadifolia*, *Leontodon crispus* var. *asper* and *Pilosella hoppeana* subsp. *testimonialis* were evaluated using 1,1-diphenyl-2-picrylhydrazyl (DPPH) free radical scavenging assay and measuring malondialdehyde measuring levels. In DPPH free radical scavenging activity as-