ISSN: 0975-833X

Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 8, Issue, 06, pp.33792-33793, June, 2016

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

RESEARCH ARTICLE

ANTIOXIDANT ACTIVITY OF NORTH INDIAN FRUIT ANANASCOMOSUS (PINEAPPLE) AND VITISVINIFERA (GRAPES) USING 1,1-DIPHENYL 1-2-PICRYLHYDRAZYL METHOD (DPPH)

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ARTICLE INFO

Article History:
Received 21st March, 2016
Received in revised form
07th April, 2016
Accepted 20th May, 2016
Published online 30th June, 2016

Key words:

Antioxidant, Free radical,
Concentration, DPPH.

ABSTRACT

Antioxidants consist of a group of vitamins, minerals, and enzymes that have health enhancing effects for our bodies. Antioxidants work to neutralize free radicals before they do harm to our bodies. Free radicals are atoms that cause damage to our cells. They harm our immune system leading to many degenerative diseases. In this article the radical scavenging activity of Indian tropical fruit pineapple and grapes was calculated at different concentrations using DPPH method.

Citation: Nazir Ahmad Wani, Haroon Rashid Boked, Ghulam Mohammad Jan, Fayaz Ahmad Bhat and Imtiyaz Rasool Parrey, . 2016. "Antioxidant activity of north Indian fruit Ananascomosus (Pineapple) and Vitisvinifera (Grapes) using 1,1-diphenyl 1-2-picrylhydrazyl method (DPPH)", *International Journal of Current Research*, 8, (06), 33792-33793.

INTRODUCTION

The effect of consuming food and beverages rich in polyphenols in terms of preventing diseases such as cancer and coronary diseases (Aqil *et al*., 2006; Beyer, 1994; Braca *et al*., 2002) is quite significant. Polyphenols can also reduce damage to DNA and production of free radicals in the body (Cakmak and Marschner, 1992; Cao *et al*., 1996; Samman, 1996; Duh *et al*., 1999). Many of the flavonoids found in grape juice, such as catechin, epicatechin, quercetin, and anthocyanins are known to have antioxidant, anti-inflammatory, and platelet inhibitory effects, as well as for being able to reduce LDL oxidation and oxidative damage to DNA, both in vitro and in animal studies (Halliwell, 1994; Jensen, 1978; Kanatt *et al*., 2007; Koleva *et al*., 2002) Colour is the most important attribute used, along with other variables, as an indicator of the quality of grape juice. This characteristic is directly dependent on the phenolic composition of the juice and the anthocyanin's present in the grape skin (Kalt and Kushad, 2001; Ansari *et al*., 2005; NaikSeema *et al*., 2008). The anthocyanins participate in many reactions that promote changes in the color of grape products, mainly through copigmentation and formation of polymeric pigments (Mendis *et al*., 2005; SajithaRajan *et al*., 2007; Ramakrishna *et al*., 2008).

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MATERIALS AND METHODS

All solvents and chemicals used were analytical /BDR grade. DPPH was obtained from March, Mumbai, India. Fruits were purchased from local market in Nagpur Maharashtra India.

Plant material

Healthy and fresh grapes and pineapple were selected and purchased from the total market of Nagpur.

Preparation of Samples

Fruits were cleaned under running tap water excessive water was drained off. The fruits were cut into small pieces and subjected to size reduction using kitchen blender with a kitchen mixer to get a thick paste, and kept at 20^{o}C for further analysis.

Preparation of extract

250mg of plant samples was extracted with 10ml of 100% methanol and left it overnight, Next day filtered with Whitman filter paper and make up the volume up to 25ml with 100 ml ethanol.

RESULTS AND DISCUSSION

Anti-oxidant activity

Free radical scavenging activity by DPPH method

Fee radical scavenging potential of fruits extract at different concentrations was tested by DPPH method and the results are presented in Table 1. It can be seen that the two fruits exhibition varying degrees of in vitro total antioxidant capacity (Pi-Jen Tsai *et al*., 2002; Singh *et al*., 2002). The average antioxidant of grapes and pine apple were 50.22% and 54.99 % RSA with methanolic DPPH solution respectively

Table 1. Free radical scavenging activity by DPPH method

Deferent		Optical Density		RSA %	
Concentration of (ppm)	DPPH	grapes	pineapple	grapes	pineapple
25		0.083	0.080	51.74	53.48
50		0.081	0.074	52.90	56.97
100		0.088	0.076	48.83	55.81
250		0.103	0.080	40.11	53.48
500		0.073	0.077	57.55	55.23
Blank	OD=				
0.1723		Total DPPH Value		50.22%	54.99%

Conclusion

The value of the polyphenolic content is high. The results are a direct measure of soluble plolyphenolic content the test is so sensitive that no interfering color is present at the dilutions used. A simple and rapid method for evaluating antioxidant activity was developed. The antioxidant activity against DPPH method is of the useful in characterizing the properties antioxidant activity of the substance found in fruits.

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