

**ANTIOXIDANT & ANTIBACTERIAL ACTIVITIES OF
HYLOCEREUS POLYRHIZUS PEELS**

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TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS	ii
TABLE OF CONTENTS	iii
LIST OF TABLES	v
LIST OF FIGURES	vi
LIST OF ABBREVIATIONS	vii
ABSTRACT	ix
CHAPTER 1 INTRODUCTION	
1.1 Research background	1
1.2 Problem statement	7
1.3 Significance of study	9
1.4 Objectives of study	10
1.5 Research questions	10
CHAPTER 2 LITERATURE REVIEW	
2.1 Dragon fruit	11
2.1.1 Medicinal Values of Dragon Fruit	12
2.1.2 Phytochemical Constituents Of Dragon Fruit Peels	14
2.2 Antioxidant	16
2.2.1 2,2-Diphenyl-1-picrylhydrazyl (DPPH)	18
2.3 Antibacterial	22
2.3.1 Disc-diffusion method	24
CHAPTER 3 METHODOLOGY	
Materials	28
Preparation of red dragon fruit peels extract (<i>Hylocereus polyrhizus</i>)	28
Preparation of testing concentration from crude extract	29
3.1 Antioxidant test	
3.1.1 Preparation of DPPH stock solution	30
3.1.2 Determining antioxidant activity using DPPH scavenging assay	31
3.2 Antibacterial test	
3.2.1 Preparation of medium	32

3.2.2	Preparation of bacterial culture	33
3.2.3	Preparation of inoculum size compared to standard	34
3.2.4	Antibacterial test by Disc-diffusion method on Mueller-Hinton agar (MHA)	35
3.3	Statistical analysis	36
CHAPTER 4 RESULTS & DISCUSSION		
4.1	Sample extraction using maceration technique	37
4.2	DPPH assay of <i>Hylocereus polyrhizus</i> peels extract and ascorbic acid	38
4.3	Zone inhibition against <i>Bacillus licheniformis</i> and <i>Escherichia coli</i> growth	43
CHAPTER 5 CONCLUSION & RECOMMENDATIONS		47
CITED REFERENCES		49
APPENDICES		55
CURRICULUM VITAE		58

ABSTRACT

Hylocereus polyrhizus peels have been suggested to contain medicinal value in terms of antioxidant and antibacterial effects. Since, there are few and outdated research about antioxidant and antibacterial activity of red dragon fruit peels extract can be found in Malaysia thus, a newly study was carried out to complement the previous research. In this experiment, the *Hylocereus polyrhizus* peels extract were prepared using maceration technique. 80% methanol was used as the extracting solvent. The extraction yield about 2.5% of *Hylocereus polyrhizus* peels crude extract which was obtained using a hot plate. The crude extract were then run through 2,2-diphenyl-1-picrylhydrazyl (DPPH) assay. Through the antioxidant test, results revealed the highest % of radical scavenging activity of red dragon fruit peels at the concentration of 100 µg/ml (71.047%). However, a better antioxidant activity was shown by a standard ascorbic acid. In Disc-diffusion test, ampicillin antibiotic was used as positive control while the 5% DMSO was used as negative control. Antibacterial activity of *Hylocereus polyrhizus* peels extract was examined at 20, 60 and 100 µg/ml concentrations against *Bacillus licheniformis*, and *Escherichia coli*. *E.coli* exhibit inhibition zone with measurement range of 11 mm (20 µg/ml), 13 mm (60 µg/ml) and 12 mm (100 µg/ml), suggesting a strong antibacterial activity. Overall, it can be concluded that *Hylocereus polyrhizus* peels can be further utilised for its natural antioxidant and antibacterial content.

Keywords: Maceration technique, methanol, DPPH, ascorbic acid, disc-diffusion test, ampicillin, 5% DMSO, *Bacillus licheniformis*, and *Escherichia coli*