



Ain Shams University  
Faculty of Science  
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# **Studies on *Aspergillus flavus* Isolated from Keratitis Patients with a Special Reference to Aflatoxin-Producing Ability**

*A thesis*

*Submitted for the Degree of Doctor of Philosophy (Ph.D.) in Microbiology*

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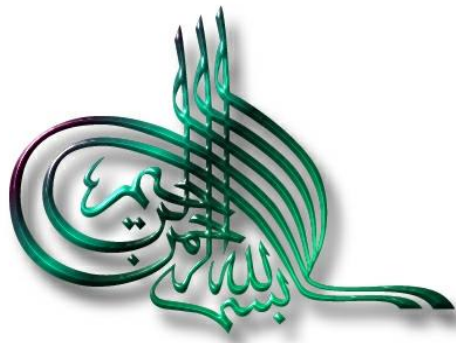
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وَقُلْ اَعْمَلُوا فِى سَبِيلِ اللّٰهِ  
عَمَلَكُمْ وَرَسُولُهُ وَالْمُؤْمِنُونَ



اللّٰهُ  
الصّٰدِقِ  
العَظِيْمِ





First of all thanks to

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*For helping me to achieve this work  
without whose mercy and guidance, this work would never  
have been started nor completed. I praise him (almighty) as  
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*Asmaa Awad Mahmoud*





# DEDICATION

TO...

My Parents,

My Husband,

My Brothers, Sisters, Sons  
and Parents of my husband



## Abstract

This study on *Aspergillus flavus* isolated from keratitis patients and from soil; suggests that AFB1 production occurs significantly and more frequently in clinical strains than it does in environmental strains. This observation has therapeutic applications, since it may be necessary to treat keratitis patients with molecules or substance extracted from natural, local, valuable and cheap origin such as the tested probiotics that suppress the growth of opportunistic fungi and it is clear that its medicinal value is comparable to the present day antibiotics. Because of the advantages of its antifungal activity; probiotics appears to have economic, clinical and public health importance, efficacy in inhibiting AFB1 production, easily preparation, low cost and availability as natural substance; these are a novel antifungal compounds which are identified and their chemical structure was elucidated from their IR and mass spectra; these compounds were dihydroindole derivative extracted from *Lactobacillus bulgaricus* and 2,6-dibutyl-9-arylacridine extracted from *Saccharomyces cerevisiae*. Also this study revealed that butanol is the proper solvent in the antifungal extraction from both *S. cerevisiae* and *L. bulgaricus*. This study showed the availability of using dihydroindole derivative and 2,6-dibutyl-9-arylacridine as antifungal antibiotics against *Aspergillus flavus* and *A. parasiticus* causing ocular ulcers. Moreover they found to have an efficacy in inhibiting their aflatoxin toxicity.

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## CONTENTS

Subject	Page
<b>Introduction</b>	1
<b>Aim of the work</b>	8
<b>Review of Literature</b>	10
1- Microbial keratitis	10
2- Historical perspective	11
3-The anatomical structure of the human eye and microbial infection mechanisms	11
4- keratomycosis	14
5- contact lenses	16
6- Mycotoxins	17
7- probiotics	19
<b>Materials and Methods</b>	23
<b>I- Materials</b>	23
1-Composition of media used for the experimental studies:	23
1-1- Sabouraud's dextrose agar (SDA) for cultivation of <i>Saccharomyces cerevisiae</i>	23
1-2- Czapek's-agar for cultivation fungal isolates	23
1-3-Yeast extract sucrose (YES) broth for quantitative detection of AFB1	23
1-4-Coconut meal agar medium for determination of aflatoxigenic activity directly on plate culture	24
1-5- Potato dextrose agar (PDA) for maintenance of fungal isolates	24
1-6-Yeast Extract Peptone Dextrose (YEPD) broth for maintenance of <i>Saccharomyces cerevisiae</i> :	24
1-7- Media used for cultivation of Lactobacillus (LAB) strains	24
2- Probiotic organisms	25
a- <i>Saccharomyces cerevisiae</i>	25
b- Lactobacillus (LAB) strain	25
3- Experimental chemicals and solvents	26
4- Antifungal antibiotics	27

5-Chromatographic plates	27
<b>II-METHODS</b>	28
1- Experimental fungal isolates	28
2 - Sterilization methods	29
3- Maintenance of fungal isolates	30
4- Maintenance of bacterial isolates	30
4.1- Short time storage	30
4.2- Long time storage	30
5-Sclerotia formation by experimental fungal isolates	30
6-Coconut based medium test and screening of the fungal strains for UV- fluorescence formation	31
7-Quantitative detection of Aflatoxin B1	32
7-a-Determination of mycelial dry weights	32
7-b- Extraction and determination of aflatoxin B1	32
7-b-i- Extraction of aflatoxin B1 from <i>Aspergillus spp.</i> Cultures	32
7-b-ii- Preparation of thin layer chromatographic (TLC) plates	32
8-Determination the inhibitory effect of probiotics against Aflatoxin B1 producing (pathogenic) fungi	33
8-a: The probiotics strains	33
8-b: Preparation of tested fungal strains (inoculums)	34
8-c: Preparation of probiotics	34
8-d:Inoculation and detection of the inhibition zone	35
9- Extraction and purification of antifungal compounds from probiotics cultures	36
9-a: Screening for the proper solvent for antifungal compounds extraction	36
9-b: Separation of the antifungal compounds from probiotics cultures	38
9-c: Determination of the retardation factor( $R_f$ ) value	38
9-d: Purification of antifungal compounds	38
10- determination the most active antifungal compound	39
11-Characterization of the partially purified antifungal compounds	39



11-a:Chemical analysis of the antifungal compounds:	39
1-a-i- Mass spectrometry	39
11-a-ii- Infra Red (IR) analysis	39
12-Determination of the MIC of the antifungal compound:	40
13-Determination the fungi-cidal or fungi-static effect of the inhibited concentrations	41
14- Cyto-toxicity test for the antifungal compounds	41
15- Transmission Electron Microscope examination for the effect of antifugal compounds	43
16-Statistical analysis	47
<b>Experimental Results</b>	48
1- Soil-borne and keratitis-borne strains used in this study	48
2- Screening of the fungal strains for sclerotia formation	48
3-Screening of the fungal strains for UV- fluorescence formation on Coconut agar medium (CAM)	49
4- Screening the potentiality of fungal strains for AFB1 production	52
5-Testing susceptibility of selected clinical strains to some probiotics	59
6- Isolation and purification of antimicrobial compounds from probiotic strains	67
6-i- Extraction of the antimicrobial compounds	67
6-ii- Separation of the antimicrobial compounds on TLC	73
6-iii- Determination of the $R_f$ value for the separated compounds	74
7-Testing the antimicrobial activity of the separated spots	74
8- Characterization and identification of the isolated antifungal compounds	79
8-a- Chemical analysis of the antifungal compounds	79
8-a-i-Mass spectrometry	79
8-a-ii-Infra Red analysis	79
8-b- Structure elucidation of the most active antifungal compounds	84
9-Cytotoxicity of the antifungal compounds produced by <i>S. cerevisiae</i> and <i>L. bulgaricus</i>	86
10- Determination of the MIC of the antifungal compounds	89

11- Determination the fungi-cidal or fungi-static effect of the inhibited concentrations	91
12- Transmission Electron Microscope examination for the effect of antifungal compounds produced by <i>S. Cerevisiae</i> and <i>L. bulgaricus</i> on ultrastructures of <i>A. flavus</i> AUMC 3939	92
<b>General Discussion</b>	95
<b>Summary</b>	104
<b>Conclusion</b>	109
<b>Reference</b>	110
<b>Arabic Summary</b>	5-1

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## List of Tables

No.	Subject	Page
1	The experimental fungal isolates	29
2	Sources of fungal strains used in this study and their ability for formation of sclerotia and blue fluorescence	50
3	Mycelial dry weights and aflatoxin B1 productivity of the fungal strains incubated in YES broth at 30 °C for 10 days	54
4	Inhibitory effect of culture filtrate (CF), acellular supernatant (ASN) and neutralized acellular supernatant (ASN) of probiotic strain against keratitic fungal causatives after 7 days of incubation periods	61
5	Inhibition zone diameter for pathogenic fungi against antifungal compound extracted from <i>Saccharomyces cerevisiae</i> dissolved in different solvents	69
6	Inhibition zone diameter for pathogenic fungi against antifungal compound extracted from <i>Lactobacillus bulgaricus</i> dissolved in different solvents	70
7	R <sub>f</sub> value for antifungal compounds extracted from liquid cultures of both <i>Saccharomyces cerevisiae</i> and <i>Lactobacillus bulgaricus</i>	74
8	Antifungal activity of separated TLC spots of n-butanol extract from <i>S. cerevisiae</i> and <i>L. bulgaricus</i> affected on pathogenic fungi	77
9	Cytotoxic activity of the antifungal compound extracted from <i>L. bulgaricus</i>	87
10	Cytotoxic activity of the antifungal compound extracted from <i>S. cerevisiae</i>	88
11	MIC determination and spectrophotometric measurements for the fungal broth <i>A. flavus</i> AUMC 3939 treated with antifungal compound extracted from <i>L. bulgaricus</i> incubated in SD broth at 28°C for 5 days	90
12	MIC determination and spectrophotometric measurements for the fungal broth <i>A. flavus</i> AUMC 3939 treated with antifungal compound extracted from <i>S. cerevisiae</i> incubated in SD broth at 28°C for 5 days	90

## List of Figures

No.	Subject	Page
1	Anatomy of the eyeball	13
2	Sclerotia formation in selected strains of <i>A. flavus</i> and <i>A. parasiticus</i>	51
3	Fluorescence of the reverse side of fungi growing on CAM after exposure to UV lamp.	52
4	Qualitative detection of AFB1 production by <i>Aspergillus</i> strains.	55
5	Mycelia dry weight of all tested fungal strains	55
6	Thin-layer chromatographic (TLC) plate of samples and standard Aflatoxin B1 spots giving blue inflorescences after treatment with UV-rays (254 nm)	56
7	Thin-layer chromatographic (TLC) plate of samples spots giving blue inflorescences after treatment with UV-rays (254 nm)	57
8	Thin-layer chromatogram plate of samples spots giving blue inflorescence after treatment with UV-rays (254 nm)	58
9	Inhibitory effect of probiotic strains on fungal strains (environmental and clinical ) grown on Czapek Dox's agar using well diffusion assay after incubation 5 days at 28°C.	62
10	Inhibitory effect of probiotics against <i>Aspergillus parasiticus</i> AUMC 3944 grown on Czapek Dox's agar incubated at 28°C for 5days.	63
11	Inhibitory effect of probiotics against <i>A. flavus</i> AUMC 3939 grown on Czapek Dox's agar incubated at 28°C for 5days	64
12	Inhibitory effect of probiotics against <i>A. parasiticus</i> AUMC 3946 grown on Czapek Dox's agar incubated at 28°C for 5days.	65
13	Inhibitory effect of probiotics on <i>Aspergillus flavus</i> AUMC 678 grown on Czapek Dox's agar incubated at 28°C for 5days	66



14	Inhibition zone diameter for antifungal compound extracted from <i>Saccharomyces cerevisiae</i> dissolved in butanol solvent on selected fungal strains	71
15	Inhibition zone diameter for antifungal compound extracted from <i>Lactobacillus bulgaricus</i> dissolved in butanol solvent on selected fungal strains	72
16	TLC plate (silica gel Gf 254) for separation the antifungal compounds extracted from both <i>Saccharomyces cerevisiae</i> and <i>Lactobacillus bulgaricus</i>	73
17	effect of separated compounds (spots) extracted from <i>Lactobacillus bulgaricus</i> on <i>A. flavus</i> AUMC 3939	78
18	effect of separated compounds (spots) extracted from <i>Saccharomyces cerevisiae</i> on <i>A. flavus</i> AUMC3939	78
19	Mass spectral-analysis of antifungal compound extracted from <i>L. bulgaricus</i> cultures	80
20	Mass spectral-analysis of antifungal compound extracted from <i>S. cerevisiae</i> cultures	81
21	IR-analysis of antifungal compound extracted from <i>L.bulgaricus</i> cultures.	82
22	IR-analysis of antifungal compound extracted from <i>S. cerevisiae</i> cultures.	83
23	Chemical structure of antifungal compound extracted from <i>L.bulgaricus</i> cultures.	84
24	chemical structure of antifungal compound extracted from <i>S. cerevisiae</i> cultures	85
25	The Cytotoxic activity of the antifungal compound extracted from <i>L. bulgaricus</i> against Mammalian cells from African Green Monkey Kidney (Vero) cells	87
26	The Cytotoxic activity of the antifungal compound extracted from <i>S.cerevisiae</i> against Mammalian cells from African Green Monkey Kidney (Vero) cells	88
27	Dilution tubes inoculated with different concentrations of antifungal compound extracted from <i>S. cerevisiae</i> on <i>A. flavus</i> AUMC 3939	91
28	TEM micrograph of mycelial L.S. of <i>A. flavus</i> AUMC	93