بسم الله الرحمن الرحيم

شبكة المعلومـــــات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

﴿ قـــسـم ﴾

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
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15 – 25c and relative humidity 20-40 %

بعض الوثائق الأصلية تالفة

بالرسالة صفحات

لم ترد بالأصـــل

The Biological Evaluation and Safety Testing of Certain Synthetic and Natural Antioxidants Used in Food Technology in Egypt

A thesis submitted for the a ward of M.Sc. degree in Zoology

By

Hala Abdel-Fatah Abdel-Hamid

(B.Sc)

Supervised by

Prof. Dr. Fahmy I. Khattab
Professor of Cell Biology
Zoology Department, Faculty of Science
Ain Shams University

Prof. Dr. Nagui H.Fares
Professor of cell Biology and
Histology- Zoology Department
Faculty of Science
Ain Shams University

Prof. Dr. Ismail El-Kasaby Ismail
Professor of Pharmacology
Pharmacology Department
National Research Center

Zoology Department
Facfulty of Science
Ain Shams University
2001

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LIST OF ABBREVIATIONS

ALP	alkaline phophatase
ALT	alanine transaminase
AST	aspartate transaminase
ATP	adenine triphosphate
BHA	butylatedhydroxyanisole
BHT	butylated hydroxy-toluen
BUN	blood urea nitrogene
Chol	cholesterol
DNA	Deoxyribonucleic acid
HDL	high density lipoprotein
LDL	low density lipoprotein
ODS	Osteogenic Disorder-Shionogi
PG	Propyl gallate
PG	Prostaglandin
ppm	part per million
TBHQ	tert-butylhydroxyquinone
TG	triglyceride
VLDL	very low density lipoprotein

ABSTRACT

The effect of a natural antioxidant (α-tocopherol) and synthetic antioxidants (BHT and BHA) were studied ***in-vivo*** and ***in vitro***. The ***in vivo*** studies included the effect of the antioxidants, given to 70 mature male rats as oral dose and as mixed with the normal diet, on blood liver and kidney function tests. The histological and ultrastructural studies included the alternations in the different components of both kidney and liver of the treated animals.

The body weight and biochemical studies showed that the natural antioxidant α-tocopherol increased the body weight without increasing body organ weight, lowered the cholesterol LDL and increased the cholesterol HDL, while the synthetic antioxidants BHT and BHA decreased the body weight with increasing the weight of liver, lung and heart, and decreasing the weight of kidney and spleen. They also raised the liver function test and the cholesterol LDL, while cholesterol HDL was lowered.

The histological and ultrastructural studies showed that liver and kidney cell structure of the synthetic antioxidant-treated animals underwent focal cell damage with certain nuclear changes, abundance of fibrous tissue, lymphocytic infiltration and highly congested capillaries. On the other hand, the natural antioxidant did not induce any significant changes in these organs.

In vitro studies on female rat uterus and rabbit intestine, showed that α-tocopherol is safe while BHA was more toxic than BHT on muscle contractions.