شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

شبكة المعلومـــات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

قسم

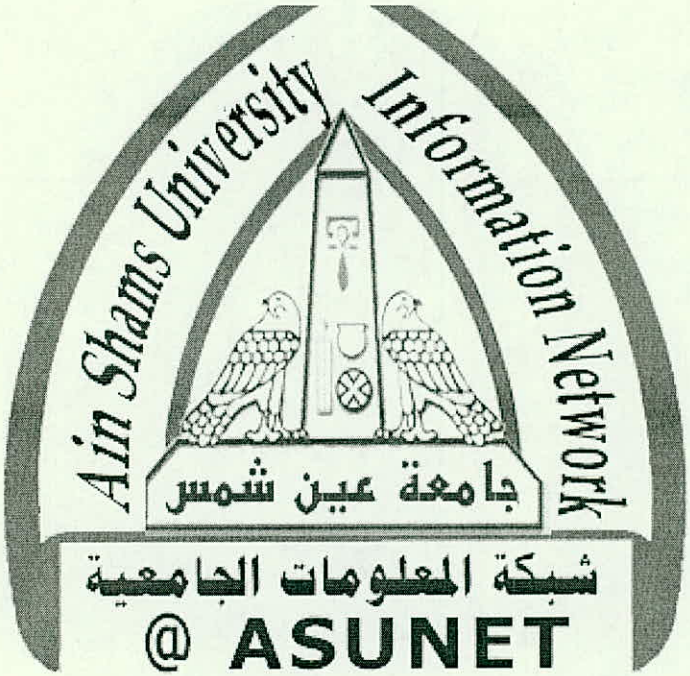
نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون آية تغيرات

يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

To be kept away from dust in dry cool place of
15 – 25c and relative humidity 20-40 %



بالرسالة صفحات

لم ترد بالأصـــل

بعض الوثائق الأصلية تالفة

BIOCHEMICAL STUDIES ON HEPARIN ISOLATED FROM INTESTINAL MUCOSA

THESIS
SUBMITTED BY

Mohamed Mahmoud Usama Nooman
(B.Sc. in Biochemistry-Chemistry, 1991)
Biochemistry Department
National Research Centre

In Partial Fulfillment for the Degree of
MASTER OF SCIENCE IN BIOCHEMISTRY

SUPERVISED BY

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بسم الله الرحمن الرحيم

قال رب أوزعني أن أشكر
نعمتك التي أنعمت علي
وعلى والدي وأن أعمل صالحا
ترضاه وأدخلني برحمتك في
عبادك الصالحين

صدق الله العظيم

AIN SHAMS UNIVERSITY
FACULTY OF SCIENCE

Student Name : Mohamed Mahmoud Usama Nooman

Degree : M.Sc. in Biochemistry

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Faculty : Faculty of Science

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Graduation Year: 1991

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LIST OF ABBREVIATIONS

Ac	: Acetyl
AD2	: Adenovirus 2
ATCC	: American Type Culture Collection
ATP	: Adnosine Triphosphate
BSA	: Bovine Serum Albumin
BP	: British Pharmacopoeia
C	: Control
°C	: Degree centigrade
Ch-4S	: Chondroitin 4-Sulfate
Ch-6S	: Chondroitin 6-Sulfate
conc.	: Concentration
CTPC	: Cetyltrimethylpyridinium chloride
CTAB	: Cetyltrimethylammonium bromide
DeS	: Dermatan Sulfate
DNA	: Deoxyribonucleic Acid
DNase	: Deoxyribonuclease
DNP	: Deoxyribonucleoprotein
E. coli	: *Escherichia coli*
Fig.	: Figure
g	: Gram
GAG	: Glycosaminoglycan
Gal	: Galactose
Glc	: Glucose
GlcA	: Glucuronic Acid
HA	: Hyaluronic Acid
HCII	: Heparin Cofactor II
HEP	: Heparin
HGF	: Hepatocyte Growth Factor
hrs.	: Hours
HS	: Heparan Sulfate
IdoA	: Iduronic Acid

IU	: International Unit
kg	: Kilogram
KS	: Keratin Sulfate
log	: Logarithm
LPL	: Lipoproteinlipase
M	: Molar
mg	: Milligram
MIRCEN	: Microbiological Resources Center
ml	: Milliliter
mRNA	: Messenger Ribonucleic Acid
N	: Normal
nm	: Nanometer
no.	: Number
NRRL	: Northern Regional Research Laboratories
O.D.	: Optical Density
PEA	: Phosphatidylethanolamine
PF-4	: Platelet Factor 4
ppm	: Part Per Million
r.p.m	: Round Per Minute
RNA	: Ribonucleic Acid
RNase	: Ribonuclease
SSB	: Single Stranded DNA Binding
TCA	: Trichloroacetic Acid
tRNA	: Transfer Ribonucleic Acid
U	: Unit
µg	: Microgram
USP	: United States Pharmacopoeia
UTP	: Uridine Triphosphate
UV	: Ultraviolet
w/v	: Weight Per Volume
Xa	: Activated factor X

BIOCHEMICAL STUDIES ON HEPARIN ISOLATED FROM INTESTINAL MUCOSA

Mohamed M.U. Nooman
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ABSTRACT

In the present study, heparin was isolated from bovine intestinal mucosa and then subjected to purification. Chemical analysis and anticoagulant activity tests of the prepared heparin samples comply well with the data of the international clinically used heparin. From the biological studies of intestinal heparin on the prokaryotic cells, it was found that intestinal heparin has the ability to inhibit cell division, synthesis of DNA, RNA and protein in *E. coli* (NRRL 211). Intestinal heparin was also found to interfere with the action of nucleases (DNase I, DNase II and RNase) *in vitro*. It was found that the processes of induction of β-galactosidase and de-repression of alkaline phosphatase in *E. coli* B (ATCC 23226) was not affected by the prepared intestinal heparin at the concentrations used.

Keywords:

Intestinal Heparin - DNA - RNA - Protein - DNases - RNase - Induction of β-galactosidase - De-repression of alkaline phosphatase.