

بسم الله الرحمن الرحيم





شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم



جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

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بالرسالة صفحات
لم ترد بالأصل





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***“Application of curcumin-magnetic nanoparticles
for the diagnosis of Alzheimer's disease using
Drosophila melanogaster (Drosophilidae: Diptera)
as a study model”***

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ABBREVIATIONS:

AD	Alzheimer disease
APoE	Apolipoprotein E
APP	Amyloid precursor protein
APPL	β-amyloid protein precursor like
ATCC	American Type Culture Collection
ATP	Adenosine triphosphate
Aβ	Amyloid beta
BBB	Blood Brain Barrier
BHK	Baby Hamster Kidney fibroblasts
cDNA	Complementary DNA
CSF	Cerebrospinal fluid
CTCF	Corrected Total Cell Fluorescence
Cur-MNPs	Curcumin-Magnetic Nanoparticles
DLS	Dynamic Light Scattering
DMEM	Dulbecco's Modified Eagle Medium
DMSO	Dimethyl sulfoxide
DNA	Deoxyribonucleic acid
dNTP	Deoxynucleoside triphosphate
FAD	Familial Alzheimer disease
FBS	Fetal bovine serum
FDA	Food and Drug Administration
Fe₃O₂	Iron Oxide
FePt	Iron Platinum
H	Hour
IC₅₀	The half maximal inhibitory concentration
IntDen	Integrated Density

Io-MNPs	Iron Oxide Magnetic Nanoparticles
MNPs	Magnetic Nanoparticles
MRI	Magnetic resonance imaging
MTT	Tetrazolium Salt, 3-4,5 Dimethylthiazol-2,5 Diphenyl Tetrazolium Bromide
N18TG2	Neuroblastoma cells
Nep2	Neprilysin-2
NIRF	Near-Infrared Fluorescence
O.D	Optical density
PBS	Phosphate Buffer Saline
PCR	Polymerase Chain Reaction
PDB	Protein Data Bank
PET	Positron Emission Tomography
Psn	Presenilin
RNA	Ribonucleic acid
Ros	Reactive Oxygen Species
RPMI	Roswell Park Memorial Institute medium
RTC	Research and Training Center on vector of diseases
RT-PCR	Reverse transcription polymerase chain reaction
SD	Standard Deviation
TEM	Transmission Electron Microscopy

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ABSTRACT

.Abstract

Alzheimer's disease (AD) is a neurological disorder associated with the over expression of amyloid-beta ($A\beta$) protein that appears to be the main causative reason.

Drosophila melanogaster is considered as a very significant model organism to study human neurodegeneration including AD, and this seems to be a valuable tool for researchers to improve a new diagnostic approach for neurodegenerative diseases.

There are many new techniques used for diagnosis of AD, including curcumin and nanoparticles. The conjugation of curcumin with magnetic nanoparticles make it a promising potential method for diagnosis.

The purpose of this study is to diagnose the AD by detecting the accumulation of $A\beta$ via curcumin-magnetic nanoparticles with using *D.melalogaster* and fluorescence imaging technique for detection.

The accumulation of amyloid beta-peptide has been detected via the conjugate using the fluorescence imaging technique. These results suggest that curcumin- magnetic nanoparticles conjugation could be used as a diagnostic tool for AD.



Introduction