

CERTIFICATE

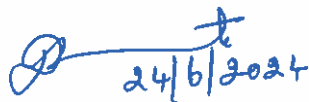
This is to certify that the thesis entitled '**Neuroprotective effect of synthesized zinc oxide nanoparticle-capped catechin**' submitted to Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, for the award of the degree of **DOCTOR OF PHILOSOPHY (Ph.D.) IN BIOCHEMISTRY**, is a record of original research work done by **B. NANDHINI** during the period of her study in the Department of Biochemistry, Biotechnology and Bioinformatics, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, under my supervision and guidance and the thesis has not formed the basis for the award of any Degree, Diploma, Associateship, Fellowship or similar title to any candidate of any other University or Institution of higher learning



**Signature of the
Head of the Department**



**Signature of the Supervisor
with designation**



**Signature of the Dean
School of Biosciences**

DECLARATION

I hereby declare that the matter embodied in the thesis entitled '**Neuroprotective effect of synthesized zinc oxide nanoparticle-capped catechin**' is the result of investigations carried out by me in the Department of Biochemistry, Biotechnology and Bioinformatics, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, in partial fulfilment of the requirements for the award of the degree of **DOCTOR OF PHILOSOPHY (Ph.D.) IN BIOCHEMISTRY** and is a record of original research work done by me under the supervision and guidance of **Dr. ANITHA SUBASH, Dean, School of Biosciences** and Professor of Biochemistry, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore and it has not been submitted for the award of any Degree, Diploma, Associateship or Fellowship of any other University or Institution of higher learning.


24/6/2024

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24/6/2024
Signature of the Candidate

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LIST OF TABLES

Table No.	Title	Page No.
I.	Outline of approaching treatments for neurological disorders	21
II.	Acetylcholinesterase inhibitors in preclinical and clinical development	40
III.	ADMET properties of commercial drugs and natural compounds	75
IV.	Docking score of neuroprotective target proteins with ligands	84
V.	Docking results of best-scored ligands with protein target	86
VI.	Phytochemicals in extracts of <i>Camellia sinensis</i>	90
VII.	Total phenolic content of <i>Camellia sinensis</i>	92
VIII.	Total flavonoid content of <i>Camellia sinensis</i>	93
IX.	Enzymic antioxidants of <i>Camellia sinensis</i>	99
X.	Non-enzymatic antioxidants of <i>Camellia sinensis</i>	100
XI.	R _f values after TLC of <i>Camellia sinensis</i> column chromatographic fractions	102
XII.	HPTLC peaks of selected chromatographic fraction of hydroethanolic extract of <i>Camellia sinensis</i>	104
XIII.	GC-MS profile of the selected chromatographic fractions of <i>Camellia sinensis</i> extract	110
XIV.	Change in colour of solution during formation of synthesized zinc oxide nanoparticles from <i>Camellia sinensis</i>	115
XV.	Entrapment efficiency of synthesized zinc oxide nanoparticle-capped catechin	135

LIST OF FIGURES

Figure No.	Title	Page No.
1	The tea journey: a diagram summarizing the various stages of processing tea leaves, the types of tea produced and the impact on its key components, the flavonoids	10
2	Classification of neurological disorders	18
3	Role of antioxidants in neurodegenerative diseases	19
4	The model depicts two main barriers for drug delivery to the brain (i.e. blood–brain barrier and blood–cerebrospinal-fluid barrier along with other cellular components of the brain).	20
5	Structure of catechin	25
6	Representation of a smart multifunctional drug loaded nanoparticle, decorated with various moieties for targeting, imaging and stealth properties	32
7	Mechanism of action of zinc oxide nanoparticles	35
8	Complex structure of neuroprotective target proteins	82
9	Docked complex structure of rivastigmine	87
9 a	2D interaction of AChE rivastigmine in the active site of AChE	88
10	Docked complex structure of catechin	88
10 a	2D interaction of AChE catechin in the active site of AChE	89
11	Total phenol content of <i>Camellia sinensis</i>	92
12	Total flavonoid content of <i>Camellia sinensis</i>	94
13a	IC 50 values of DPPH radical scavenging activity of <i>Camellia sinensis</i>	95
13b	DPPH radical scavenging activity of <i>Camellia sinensis</i>	96

Figure No.	Title	Page No.
14	FRAP radical scavenging activity of <i>Camellia sinensis</i>	97
15	Total antioxidant capacity of <i>Camellia sinensis</i>	98
16	Track 1 Baseline display and peak densitogram display of catechin	104
17	3D display of HPTLC superimposed HPTLC fingerprints of catechin	105
18	UV spectrum of the selected chromatographic fraction of <i>Camellia sinensis</i>	106
19 a	Content of catechin in 3 rd chromatographic fraction of <i>Camellia sinensis</i>	107
19 b	Calibration curve of the absorbance against the concentrations of catechin of <i>Camellia sinensis</i>	107
20	Fourier-transform infrared spectroscopy (FTIR) of the selected chromatographic fraction of <i>Camellia sinensis</i>	108
21	GC-MS profile of the selected chromatographic fraction of <i>Camellia sinensis</i> extract	110
22	NMR spectrum of the selected chromatographic fraction of <i>Camellia sinensis</i> extract	111
23	LC-MS Spectrum of the selected chromatographic fraction of the <i>Camellia sinensis</i> extract	113
24	The UV-Visible spectrum of synthesized zinc oxide nanoparticles from <i>Camellia sinensis</i>	116
25	SEM images of synthesized zinc oxide nanoparticles from <i>Camellia sinensis</i>	117
26	EDAX spectrum of synthesized zinc oxide nanoparticles from <i>Camellia sinensis</i>	118
27	Elemental Mapping analysis of synthesized zinc oxide nanoparticles from <i>Camellia sinensis</i>	119
28	XRD image of synthesized zinc oxide nanoparticles from	120

Figure No.	Title	Page No.
	<i>Camellia sinensis</i>	
29	The FT-IR spectra of synthesized zinc oxide nanoparticles from <i>Camellia sinensis</i>	121
30	The Zeta potential of synthesized zinc oxide nanoparticles from <i>Camellia sinensis</i>	123
31	DPPH scavenging activity of synthesized zinc oxide nanoparticles from <i>Camellia sinensis</i>	124
32	Acetyl cholinesterase (AChE) inhibitory activity of synthesized zinc oxide nanoparticles from <i>Camellia sinensis</i>	126
33	UV-visible Spectrum of synthesized zinc oxide nanoparticle-capped catechin	128
34	SEM Images of synthesized synthesized zinc oxide nanoparticle- capped catechin magnification range (5 μ m)	129
35	XRD patterns of synthesized zinc oxide nanoparticle capped-catechin	130
36	FT-IR spectrum of synthesized zinc oxide nanoparticle capped-catechin	131
37	Zeta potential of synthesized zinc oxide nanoparticle capped-catechin	133
38	Antioxidant activity of synthesized zinc oxide nanoparticle capped catechin	134
39	<i>In Vitro</i> drug release of synthesized zinc oxide nanoparticle-capped catechin	136
40	Acetylcholinesterase (AChE) inhibitory activity of synthesized zinc oxide nanoparticle-capped catechin	137
41	Effect of synthesized zinc oxide nanoparticle-capped catechin on cell viability in neuro 2a cells	139
42	LDH leakage of synthesized zinc oxide nanoparticle-capped catechin	140

Figure No.	Title	Page No.
43	Microscopic images exhibiting the protective effect of synthesized zinc oxide nanoparticle-capped catechin toxicity against neuro 2a cell line	142
44	Effect of synthesized zinc oxide nanoparticle -capped catechin on SOD activity of the neuro-2a cells	143
45	Effects of synthesized zinc oxide nanoparticle-capped catechin exposure on intracellular ROS levels. Representative images of DCF staining of neuro 2a cells.	144
46	Inhibition of synthesized zinc oxide nanoparticle-capped catechin the acetylcholinesterase activity of neuro-2a cells	146
47	Cell cycle analysis by flow cytometer	147

LIST OF PLATES

Plate . No	Title	Page No.
1.	<i>Camellia sinensis</i> (L.) Kuntze	56
2.	Column chromatographic patterns of hydroethanolic extract of <i>Camellia sinensis</i>	102
3.	Change in colour of solution during formation of synthesized zinc oxide nanoparticles from <i>Camellia sinensis</i> extract	115

ABBREVIATIONS

AChE	-	Acetylcholinesterase
ADMET	-	Absorption, Distribution, Metabolism Excretion and Toxicity
AV		Atrioventricular
BChE	-	Butyrylcholinesterase
CNS		central nervous system;
CO ₂	-	Carbon dioxide
COPD		Chronic obstructive pulmonary disease
CTC		Crush, Tear and Curl
CV		Cardiovascular
DCFDA	-	Dichlorodihydro Fluorescein Diacetate
DCFDA	-	Dichlorodihydro Fluorescein Diacetate
DPPH	-	Diphenyl-Picryl Hydrazine
EC	-	epicatechin
ECG	-	epicatechin-3-gallate
EDAX	-	Energy-dispersive X-ray analysis
EGC	-	epigallocatechin
EGCG	-	epigallocatechin-3-gallate
FBS	-	Fetal bovine serum
FRAP	-	Ferric Reducing Antioxidant Power
FTIR	-	Fourier Transform Infra-Red Spectroscopy
FTP	-	File Transfer Protocol
GC-MS	-	Gas chromatography/Mass spectrometry
GI		Gastrointestinal
GLIDE	-	Grid based Ligand Docking with Energetics

HPTLC	- High Pressure Thin Layer Chromatography
LC-MS	- liquid chromatography-mass spectrometry
<hr/>	
LDH	- Lactate Dehydrogenase
MEM-EBSS	- Minimal Essential Medium- Earle's Balanced Salt Solution
MO-ZnONP	zinc oxide nanoparticles using <i>Moringa olifera</i> leaf extract
MTT	- dimethylthiazolyl- 20, 50-diphenyl-2-H-tetrazolium bromide
NMR	- Nuclear Magnetic Resonance spectrometry
NSAID	Non-steroidal anti-inflammatory drugs
PDB	- Protein Data Bank
Rf value	- Retardation factor value
ROS	- Reactive Oxygen Species
SEM	- Scanning Electron Microscopy
SOD	- Superoxide Dismutase
SP	- Standard Precision
TAC	- Total Antioxidant Capacity
TLC	- Thin layer chromatography
UV	- Ultraviolet–Visible spectroscopy
WHO	World Health Organization
XP	- GLIDE Xtra Precision
XRD	- X-ray powder diffraction
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LIST OF PUBLICATIONS

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