



شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكرو فيلم

بسم الله الرحمن الرحيم



MONA MAGHRABY



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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

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Clinical, Trichoscopic And Immunohistochemical Evaluation of Autologous Adipose Derived Adult Stem Cell Injection in The Treatment of Female Pattern Hair Loss

Thesis

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بسم الله الرحمن الرحيم

قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا
إِلَّا مَا عَلَّمْتَنَا إِنَّكَ أَنْتَ
الْعَلِيمُ الْحَكِيمُ

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List of Abbreviations

5AR	: 5 α -reductase inhibitor.
17-OH-P	: 17-hydroxyprogesterone.
ADSCs	: Adipose-derived stem cells.
ADSC-CM	: Conditioned media of ADSCs.
AGA	: Androgenetic alopecia.
ALP	: Alkaline phosphatase.
APM	: Arrector pili muscle.
ARs	: Androgen receptors.
ATP	: Adenosine triphosphate.
BMP-4	: Bone morphogenetic protein-4.
BMSC	: Bone marrow-derived stem cells.
BPH	: Benign prostatic hypertrophy.
CAG repeats	: Cytosine, Adenine, and Guanine repeats.
CD	: Clusters of differentiation.
CHTD	: Cumulative hair thickness density.
Col17a1	: Collagen type XVII alpha 1.
COX	: Cytochrome-c oxidase.
CPA	: Cyproterone acetate.
CTE	: Chronic telogen effluvium.
DHEA	: Dehydro-epiandrosterone.
DHT	: Dihydrotestosterone.
DKK-1	: Dickkopf 1.
DPC	: Dermal papilla cells.
DNA	: Deoxy- ribonucleic acid.
Dsg-1	: Desmoglein-1.

Dsg-3	: Desmoglein-3.
Dsg-4	: Desmoglein-4.
ECM	: Extracellular matrix.
EGF	: Epidermal growth factor.
EMA	: European Medicines Agency.
EPCs	: Endothelial progenitor cells.
ERs	: Estrogen receptors.
ERK	: Extracellular receptor kinase.
FAI	: Free androgen index.
FBS	: Fetal Bovine Serum.
FGF	: Fibroblast growth factor.
FIN	: Finasteride.
FPHL	: Female pattern hair loss.
FMap	: Follicular map.
FST	: Follistatin.
FUs	: Follicular units.
FZD	: Frizzled receptors.
GAGs	: Glycoaminoglycans.
GnRH	: Gonadotropin-releasing hormone.
GP4G	: Diguanosine tetraphosphate.
HGF	: Hepatocyte growth factor.
HF	: Hair follicle.
HFSCs	: Hair follicle stem cells.
HSC	: Hair stimulating complex.
HSDD	: Hair shaft diameter diversity.

IGF-1	: Insulin-like growth factor-1.
IL	: Interleukin.
IL-1RA	: Interleukin -1 receptor antagonist.
iNOS	: Inducible nitric oxide synthase.
IRS	: Inner root sheath.
JAK-STAT	: Janus kinase- signal transducer and activator of transcription proteins.
LEF/TCF	: Lymphoid enhancer-binding factor/ T cell-factor proteins.
LLLT	: Low-level laser/light therapy.
MAGA	: Male androgenetic alopecia.
MMP	: Matrix metalloproteinase.
MPHL	: Male pattern hair loss.
MPS	: Marine protein supplements.
MSCs	: Mesenchymal stem cells.
MV	: Methyl vanillate.
NO	: Nitric oxide.
OTC	: Over-the counter.
ORS	: Outer root sheath.
PBS	: Phosphate Buffered Saline.
PDGF A	: Platelet-Derived Growth Factor A.
PGs	: Prostaglandins.
PGD2	: Prostaglandin D2.
PGD2R	: Prostaglandin D2 receptor.
PGE2	: Prostaglandin E2.
PGF2a	: Prostaglandin F2a.
PHL	: Patterned hair loss.

PPAR	: Peroxisome proliferator-activated receptors.
PRP	: Platelet-rich plasma.
ROS	: Reactive oxygen species.
RNA	: Ribonucleic acid.
Runx-1	: Runt-related transcription factor 1.
RXM	: Roxithromycin.
SA β-gal	: Senescence associated β -galactosidase.
SCs	: Stem cells.
SCF	: Stem cell factor.
SHBG	: Sex hormone binding globulin.
SFRP	: Secreted frizzled related protein.
SNP	: Single nucleotide polymorphism.
SPB	: Saw palmetto berries.
SVF	: Stromal vascular fraction.
TE	: Telogen effluvium.
TGF	: Transforming growth factor.
TNF	: Tumor necrosis factor.
TREGS	: Regulatory T cells.
VEGF	: Vascular endothelial cell growth factor.
VDRs	: Vitamin D receptors.
VPA	: Valproic acid.
Wnt	: Wingless-type proteins.
US-FDA	: United States Food and Drug Administration.