Effect of Alteration in Vitamin D Level On Adipose Tissue Metabolism In Obese Rats

Thesis

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By

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Nourhan Abo El-Yazed Mohamed

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List of Abbreviations

Abb.	Full term
$1,24,25(OH)_3D$	1,24,25-trihydroxyvitamin
$1,25(OH)_2D$	1,25-dihydroxyvitamin D
25(OH)D	25-hydroxyvitamin D
3T3-L1	Pre-adipocyte cell line
4-AP	4-Aminophenazone
ACC-1	Acetyl-CoA carboxylase-1
ACS	Acyl-CoA synthetase
ADP	Adenosine diphosphate
ADSCs	Adipose tissue-derived stem cells
AI	Atherogenic index
AIN	American Institute of Nutrition
ATGL	Adipose triglyceride lipase
ATP	Adenosine triphosphate
BAT	Brown adipose tissue
BMI	Body mass index
BMPs	Bone morphogenetic proteins
BW	Body weight
C/EBP	CCAAT-enhancer-binding protein
CCAAT	Cytosine-cytosine-adenosine-adenosine-thymidine
CHE	Cholesterol esterase
CHOD	Cholesterol oxidase
CPT	Carnitine palmitoyltransferase
CTRPs	Complement tumor necrosis factor

Abb.	Full term
	related proteins
CYP	Cytochrome P
CYP24A1	Cytochrome P450, family 24, subfamily A, polypeptide1
CYP27B1	Cytochrome P450, family 27, subfamily B, polypeptide1
CYP2R1	Cytochrome P450, family 2, subfamily R, polypeptide1
DAGs	Diacylglycerols
DAP	Dihydroxyacetone phosphate
DBP	Vitamin D binding protein
DNA	Deoxyribonucleic acid
EBF	Early B-cell factor
ECaC	Epithelial calcium channel
ELISA	Enzyme-linked immunosorbent assay
EM	Energy metabolism
ETC	Electron transport chain
$FADH_2$	Reduced flavin adenine dinucleotide
FAs	Fatty acids
FAS	Fatty acid synthase
FGF-23	Fibroblast growth factor-23
FGFs	Fibroblast growth factors
GLUT-4	Glucose transporter-4
GON	Gonadal
GPO	Glycerol-3-phosphate oxidase
HCD	High caloric diet

Abb.	Full term
HDACs	Histone deactylases
HDL-c	High density lipoprotein-cholesterol
HRP	Horseradish Peroxidase
HSL	Hormone-sensitive lipase
HVD	High vitamin D
IGF-1	Insulin like growth factor-1
IL-6	Interleukin-6
IRS-1	Insulin receptor substrate-1
IU	International unit
KCs	Kupffer cells
LCFAs	Long-chain fatty acids
LDL-c	Low density lipoprotein-cholesterol
LI	Lee index
LPL	Lipoprotein lipase
LVD	Low vitamin D
MAG	Monoacylglycerol
MMP	Matrix metalloproteinase
Myf-5	Myogenic factor-5
NADH	Reduced nicotinamide adenine dinucleotide
NAFLD	Non-alcoholic fatty liver disease
Na-Pi	Sodium-dependent phosphate cotransporter
NCOR	Nuclear receptor co-repressor
NEFAs	Non-esterified fatty acids
NF- κB	Nuclear factor kappa B

Abb.	Full term
NR	Nuclear receptor
NS	Not-significant
OPG	Osteoprotegerin
PAI-1	Plasminogen activator inhibitor-1
PBS	Phosphate Buffered Saline
PGC-1α	PPAR-γ-coactivator-1α
PMCa	Plasma membrane calcium pump
POD	Peroxidase
PPAR-γ	Peroxisome proliferator-activated receptor-gamma
PRDM-16	PRD1-BF1-RIZ1 homologous domain-containing 16
PTH	Parathyroid hormone
RANKL	Receptor activator of nuclear factor kappa-B ligand
RAS	Renin-angiotensin system
RET	Retroperitoneal fat
RNA	Ribonucleic acid
ROS	Reactive oxygen species
RXR	Retinoid X receptor
SCD-1	Stearoyl-CoA desaturase-1
SEM	Standard error of mean
SFRP-5	Secreted frizzled-related protein-5
SREBP	Sterol regulatory element-binding protein
SVD	Standard vitamin D
T2DM	Type 2 diabetes mellitus

Abb.	Full term
T2DM	Type 2 diabetes mellitus
TAGs	Triacylglycerols
TC	Total cholesterol
TCA	Tricarboxylic acid
TF	Total fat
TG	Triglycerides
TGF-β	Transforming-growth factor-beta
TIMPs	Tissue inhibitors of metalloproteinases
TMB	Tetramethylbenzidine
TNF-α	Tumour necrosis factor-alpha
UCP-1	Uncoupling protein-1
UV-B	Ultraviolet-B
VDR	Vitamin D receptor
VDRE	Vitamin D response element
VLDL-c	Very low density lipoprotein-cholesterol
WAT	White adipose tissue
ZFP-423	Zinc-finger protein-423

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