

List of Abbreviations

4-AP	4-aminophenazone
AA	Arachidonic acid
ACC1	Acetyl-CoA carboxylase 1
ACC2	Acetyl-CoA carboxylase 2
ADP	Adenosine diphosphate
ALA	α -linolenic acid
c-AMP	Cyclic adenosine 3', 5'- monophosphate
AMPK	AMP-activated protein kinase
ANGPTL2	Angiopietin-like protein 2
ANOVA	Analysis of variance
APS	Ammonium persulfate
ATP	Adenosine triphosphate
BBS	Bardet- Biedl syndrome
BCA	2-Bicinchoninic Acid
BMI	Body mass index
BWS	Beckwith- Wiedemann syndrome
CAT	Catalase
CCL2	Chemokine (C-C motif) ligand 2
CD4+	Cluster of differentiation 4
CD8+	Cluster of differentiation 8
CD11c+	Cluster of differentiation 11 c+
CHE	Cholesterol estrase
CHOD	Cholesterol oxidase

CPT-1	Carnitine palmitoyltransferase-1
CVD	Cardiovascular disease
CXCL5	chemokine (C-X-C motif) ligand 5
DHAP	Dihydroxyacetone phosphate
DEPC	Diethylpyrocarbonate
DHA	Docosahexaenoic acid
DOC	Deoxycholic acid
EDTA	Ethylenediaminetetraacetic acid
ELISA	Enzyme-linked immunosorbent assay
EPA	Eicosapentaenoic acid
FFA	Free fatty acid
G3P	Glycerol-3 phosphate
GL	Glycemic load
GLUT-4	Glucose transporter 4
GNs	Gingerols
GOD	Glucose oxidase
GPDH	Glycerol phosphate dehydrogenase
GPx	Glutathione peroxidase
GTC	Guanidine thiocyanate
H ₂ O ₂	Hydrogen peroxide
H3K9	Histone H3 lysine 9
HDL	High-density lipoprotein
HFD	High fat diet
HPA axis	Hypothalamic-pituitary-adrenal axis

HRP- Streptavidin	Horseradish peroxidase Streptavidin
I κ B	I kappa B
IKK	I kappa B kinase
IL-1 β	Interleukin-1 β
IL-6	Interleukin-6
IL-8	Interleukin-8
IR	Insulin resistance
IRS2	Insulin receptor substrate–2
JNK	C-Jun NH 2-terminal kinase
LA	Linoleic acid
LDL	Low density lipoprotein
LPL	Lipoprotein lipase
Malonyl CoA	Malonyl coenzyme A
MC4-R	Melanocortin-4 receptor
MetS	Metabolic syndrome
NAD	Nicotinamide adenine dinucleotide
NAMPT	Nicotinamide phosphoribosyltransferase
NEFA	nonesterified fatty acid
NF- κ B	Nuclear factor kappa B
NHANES	National Health and Nutrition Examination Survey
OGTT	Oral glucose tolerance test
PKC	Proteinkinase C
POD	Peroxidase
POMC	pro-opiomelanocortin

PPAR	Peroxisome oroliferator activated receptors
PUFAs	Polyunsaturated fatty acids
PVDF	Polyvinylidene fluoride
PWS	Prader-Willi syndrome
qPCR	Quantitative polymerase chain <i>reaction</i>
RA	Retinoic acid
RBP4	Retinol-binding protein4
RIPA	Radioimmunoprecipitation assay
ROS	Reactive oxygen species
RS1	insulin receptor substrate-1
RT-PCR	Reverse transcription polymerase chain reaction
SDS	Sodium dodecylsulfate
SDS-PAGE	Sodiumdodecylsulfate-polyacrylamide gel electrophoresis
SES	Socioeconomic status
SFRP5	Secreted frizzled-related protein 5
SGs	Shogaols
SIRT-1	Sirtuin -1
SIRT-6	Sirtuin- 6
SIRT-7	Sirtuin 7
SOCS	suppressors-of-cytokine-signaling
SOD	superoxide dismutase
SSBs	Sugar-sweetened beverages
T2DM	Type 2 diabetes mellitus
TBS	Tris buffered

TEMED	N,N,N,N-tetramethyl-ethylendiamine
Thr172	Threonine 172
TLC	Thin layer chromatography
TMB	3,3',5,5'-Tetramethylbenzidine
TNF- α	Tumor necrosis factor- α
VAT	Visceral adipose tissue
VLDL	Very low density lipoprotein
VMH	Ventromedial hypothalamus
WAGR	Wilms tumor, aniridia, genitourinary anomaly, mental retardation
WAT	White adipose tissue