

List of Abbreviations

ACC1	Acetyl-CoA Carboxylase 1	IPITT	Intraperitoneal Insulin Tolerance Test
ADA	American Diabetes Association	IR1 β	Insulin Receptor 1- Beta
AIF	Apoptosis Inducing Factor	IRS1	Insulin Receptor Substrate 1
ATM	Adipose Tissue Macrophage	JNK	c Jun N-Terminal Kinase
AKT/PKB	Protein Kinase B	LDL	Low Density Lipoproteins
AMPK	AMP-Activated Protein Kinase	M	Melatonin
ARX	Aristaless-Related Homeobox	MCP1	Monocyte Chemoattractant Protein-1
AT	Adipose Tissue	NEFAs	Non-Esterified Free Fatty Acids
ATGL	Adipose Triglyceride Lipase	NGN3	Neurogenin-3
AUC	Area Under Curve	OCR	Oxygen Consumption Rate
BMI	Body Mass Index	PAX4	Paired Box 4
BrdU	5-Bromo-2'-Deoxyuridine	PBMC	Peripheral Blood Mononuclear Cells
BSA	Bovine Serum Albumin	PCR	Polymerase Chain Reaction
BW	Body Weight	PDX1	Pancreas/Duodenum Homeobox Protein 1
DAG	Diacyl Glycerol	PEPCK	Phosphoenolpyruvate Carboxykinase
DAPI	4',6-Diamidino-2-Phenylindole	PGC1 α	PPAR γ Coactivator 1- Alpha
DEPC	Diethylpyrocarbonate	PI3K	Phosphoinositide 3-Kinase
DM	Diabetes Mellitus	PPAR	Peroxisome Proliferator- Activated Receptor
FBG	Fasting Blood Glucose	PPAR γ	Peroxisome Proliferator-Activated Receptor- Gamma
FBPase	Fructose 1,6-Bisphosphatase	RCR	Respiratory Control Ratio
FBS	Fetal Bovine Serum	RFLP	Restriction Fragment Length Polymorphism
FFA	Free Fatty Acid	S	Sitagliptin
GCK	Glucokinase	S+M	Sitagliptin + Melatonin
GDM	Gestation Diabetes Mellitus	SEM	Standard Error Mean
GLUT2	Glucose Transporter 2	SIRT1	Sirtuin 1
GLUT4	Glucose Transporter 4	SNP	Single Nucleotide Polymorphism
GSIS	Glucose Stimulated Insulin Secretion	STZ	Streptozotocin
GS	Glycogen Synthase	TFAM	Transcription Factor A, Mitochondrial
GP	Glycogen Phosphorylase	TC	Total Cholesterol
G6Pase	Glucose 6-Phosphatase	TG	Triglyceride
GWAS	Genome Wide Association Studies	TNF α	Tumor Necrosis Factor- Alpha
HDL	High Density Lipoproteins	TUNEL	Terminal Deoxynucleotidyl Transferase dUTP Nick End Labelling
HFD	High Fat Diet	T1D	Type 1 Diabetes
IDF	International Diabetes Federation	T2D	Type 2 Diabetes
IL	Interleukin	WAT	White Adipose Tissue
IPGTT	Intraperitoneal Glucose Tolerance Test	WHO	World Health Organization