

ABBREVIATIONS

AAT: Amino-acid transporter	G3PDH: Glyceraldehyde-3-phosphate dehydrogenase
AGE: Advanced glycation end products	GABA: gamma-Aminobutyric acid
AgRP: Agouti-related transcript	GC: Glucocorticoid
ALDH1L1: Aldehyde dehydrogenase 1 family member L1	GFAP: Glial fibrillary acidic protein
AMPA: α -amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid receptor	GK rat: Goto-Kakizaki rat
AMPK: 5' adenosine monophosphate-activated protein kinase	GLAST: Glutamate aspartate transporter
ANLS: Astrocyte Neuron Lactate Shuttle	GLN: Glutamine
ARC: Arcuate nucleus	GLT1: Glutamate transporter-1
BAT: Brown adipose tissue	GLU: Glutamate
BBB: Blood brain barrier	GLUT: Glucose transporter
BDNF: Brain derived neurotrophic factor	GSIS: Glucose-stimulated insulin secretion
bFGF: basic Fibroblast growth factor	GSK3: Glycogen synthase kinase 3
CART: Cocaine and amphetamine regulated transcript	i.c.v.: Intracerebroventricular
CNPase: 2',3'-Cyclic-nucleotide 3'-phosphodiesterase	ICC: Immunocytochemistry
CNS: Central nervous system	IGF: Insulin like growth factor
CRF: Corticotrophin releasing factor	INS: Insulin
CSF: Cerebrospinal fluid	INSR: Insulin receptor
CVOs: Circumventricular organs	ISF: Interstitial fluid
Dexa: Dexamethasone	KD: Knockdown
EAAT: Excitatory Amino Acid Transporter	LHA: Lateral hypothalamic area
EC: Endothelial cell	MAP2: Microtubule associated protein
EGF: Epidermal growth factor	MAPK: Mitogen activated protein kinase
FIRI: Fasting insulin resistance index	MBH: Mediobasal hypothalamus
FOXO: Forkhead box 'Other'	MC4R: Melanocortin 4 receptor
	MCH: Melanin concentrating hormone
	MCT: Monocarboxylate transporter
	MOA: Monoamine oxidase

mTOR: Mammalian target of rapamycin
NIRKO: Neuronal insulin receptor knockout
NMDA: N-Methyl-D-aspartate receptor
NPC: Neural progenitor cell
NPY: Neuropeptide Y
NSC: Neural stem cell
NZO mice: New Zealand Obese mice
OGTT: Oral glucose tolerance test
PH: Pleckstrin homology
PI3K: Phosphoinositol-3-kinase
PIP2: Phosphatidylinositol-(4, 5)-bisphosphate
PIP3: Phosphatidylinositol-(3, 4, 5)-trisphosphate
PND: Postnatal day
POMC: Proopiomelanocortin
PPAR: Peroxisome proliferator activated receptor
PSD-95: Post-synaptic density-95
PVN: Paraventricular nucleus
s.c.: Subcutaneously
S.D.: Standard deviation
S.E.M.: Standard Error of Mean
SDS: Sodium Dodecyl Sulphate
SFI: Sciatic function index
SGZ: Subgranular zone
SNP: Single Nucleotide Polymorphism
STZ: Streptozotocin
SNS: Sympathetic nervous system
SVZ: Subventricular zone
T1DM: Type 1 diabetes mellitus
T2DM: Type 2 diabetes mellitus
TGF: Transforming growth factor
VEGF: Vascular endothelial growth factor
VMH: Ventromedial hypothalamus
WAT: White adipose tissue