

ABBREVIATIONS

1,25(OH) ₂ D ₃	1 α ,25-dihydroxyvitamin D ₃
5-HIAA	5-hydroxy indole - 3 acetic acid
5-HT	5-Hydroxy tryptamine
ACh	Acetylcholine
AD	Alzheimers disease
AMPA	α -amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid
ATP	Adenosine-5'-triphosphate
Bcl-2	B-cell lymphoma 2
bHLH	basic helix-loop-helix
B _{max}	Maximal binding
BSA	Bovine serum albumin
BAX	Bcl-2-associated X protein
Ca ²⁺	Calcium
CaBP	Calcium binding protein
CAT	Catalase
CICR	Ca ²⁺ -induced calcium release
CNS	Central Nervous System
CSF	Cerebrospinal fluid
Ct	Crossing threshold
DA	Dopamine
DAG	Diacyl Glycerol

DEPC	Di ethyl pyro carbonate
DM	Diabetes Mellitus
DNA	Deoxyribonucleic acid
EAAT2	Excitatory amino-acid transporter
EDTA	Ethylene diamine tetra acetic acid
EPI	Epinephrine
ER	Endoplasmic reticulum
FITC	Florescent isothiocyanate
GABA	Gamma amino butyric acid
GAD	Glutamate decarboxylase
GPCRs	G protein coupled receptors
GPxs	Glutathione peroxidase
GDH	Glutamate dehydrogenase
GLUT2	Glucose transporter type 2
GLUT3	Glucose transporter type 3
GLUT4	Glucose transporter type 4
GSH	Glutathione
HbA _{1c}	Glycated haemoglobin
HBSS	Hang's balanced salt solution
HIV	Human immunodeficiency virus
IDDM	Insulin-dependent diabetes mellitus
IGF	Insulin-like growth factor
iGluRs	Ionotropic Glutamate Receptor

INS	Insulin
KA	Kainate
K_d	Dissociation constant
K_m	Michaelis constant
L-DOPA	L-3,4-dihydroxyphenylalanine
LTD	Long term depression
LTP	long-term potentiation
mGluRs	Metabotropic glutamate receptors
mRNA	Messenger ribonucleic acid
NE	Norepinephrine
NIDDM	Non-insulin-dependent diabetes mellitus
NMDA	N-methyl-D-aspartate
NOS	Nitrous Oxide Systems
P	Level of significance
Pdx1	Pancreatic duodenal homeobox 1
PBS	Phosphate buffered saline
PBST	Phosphate buffered saline Triton X- 100
PCP	Phencyclidine
PCR	Polymerase Chain Reaction
PI3K	Phosphatidylinositide 3-kinases
PIP2	phosphatidyl inositol 4,5-bisphosphate
PKC	Protein kinase C
PLC	Phospholipase C

PP cells	Pancreatic polypeptide
QNB	Quinuclidinylbenzilate
RNA	Ribonucleic acid
ROS	Reactive oxygen species
SEM	Standard error of mean
Ser	Serine
SOD	Superoxide dismutase
STZ	Streptozotocin
Thr	Threonine
Tyr	Tyrosine
VDR	Vitamin D receptor
VGLUTs	vesicular glutamate transporters
WHO	World Health Organization