

LIST OF ABBREVIATION

AF555-Alexa Fluor 555	EBs- Embryoid bodies
AGE- advanced glycosylation end-product	EDTA- Ethylenediaminetetraacetic acid
aPKC- Atypical protein kinase C	EGF-Epidermal growth factor
ANOVA-Analysis of variance	EGFR- epidermal growth factor receptor
Arx- Aristaless-related homeobox gene	EL- <i>Enicostemma littorale</i>
ATP- Adenosine triphosphate	ELISA- Enzyme linked immunosorbent assay
bHLH- Basic helix–loop–helix	EMT - epithelial–mesenchymal transition
BM- Bone marrow	ESCs- Embryonic stem cells
BMC- Bioactive molecules cocktail	FACS- Fluorescent activated cell sorter
BMP-bone morphogenic protein	FBS- Fetal Bovine Serum
BSA- Bovine serum albumin	FDA- Food and Drug Administration
cAMP- Cyclic Adenosine monophosphate	FGF- Fibroblast growth factor
CaCl ₂ –Calcium chloride	FITC- Fluorescein isothiocyanate
CD-Cluster of differentiation	FOXO1-Forkhead box protein O1
cDNA –Complementary DNA	FOXA2 - Forkhead box protein A2
ChIP-Chromatin immunoprecipitation	GAD- Glutamate decarboxylase
CCl ₄ - Carbon tetrachloride	GATA4 -(GATA Binding Protein 4)
CDK- Cyclin dependent kinase	GATA6- (GATA Binding Protein 6)
CK-Cytokeratin	GCK- Glucokinase
CNS- Central Nervous System	GFP- Green Fluorescent protein
CPCSEA- Committee for the purpose of control and supervision of experiments on animals	GLP-1- Glucagon-like peptide-1
DAPI- 4'6'-diamidino-2-phenylindole Dihydrochloride	GLUT- Glucose Transporter
DCFDA- 2',7' –dichlorofluorescein diacetate	GPx- Glutathione peroxidase
DM-Diabetes mellitus	GSH- Reduced glutathione
DMEM- KO -Dulbecco's Modified Eagle Media-Knock out	GSIS- Glucose-stimulated insulin secretion
DMSO- Dimethyl Sulphoxide	GTT- Glucose tolerance test
DTZ- Dithizone	H & E- Hematoxylin and Eosin
	hBMSCs: Human bone marrow-derived mesenchymal stem cell
	HGF- Hepatocyte Growth Factor

HFM- Hollow fiber membrane	LNA- Locked nucleic acid
HNF- Hepatocyte nuclear factor	MafA- musculoaponeurotic fibro sarcoma oncogene homology A
HNF-1 beta - hepatocyte nuclear factor 1 homeobox B)	MafB- musculoaponeurotic fibro sarcoma oncogene homology B
HLA-Human leukocyte antigen	MHC- Major histocompatibility complex
HSCs-Hematopoietic stem cells	MSCs- Mesenchymal stem cells
IP-Immunoprecipitation	MTT- (3-(4,5-Dimethylthiazol-2-yl)-2,5Diphenyltetrazolium Bromide)
I.P.- Intraperitoneal	NGN-3-Neurogenin-3
I.V. Intravenous	NIDDM- Non-insulin dependent diabetes mellitus
ICC- Immunocytochemistry	NO- Nitric Oxide
IFG-Impaired fasting glucose	NOD- Non-obese diabetic
IGT- Impaired Glucose Tolerance	NEUROD1- Neuronal differentiation 1
IHC- Immunohistochemistry	NKX 6.1 -NK6 homeobox 1
IL- Interleukin	NKX2-2 NK2 homeobox 2
ILCC- Islet like cell clusters	NANOG-Homeobox protein NANOG
ILC-Islet like clusters	ONS- Oct4, Sox-2, Nanog
IPC-Insulin producing clusters	Oct-4-Octamer binding transcription factor 4
INF- Interferon	PARG- PAR glycohydrolase
INS- insulin gene	PARP- Poly (ADP-ribose) Polymerase
INGAP-Islet neogenesis associated protein	PAX-4-Paired box-containing gene-4
IPC- Intra-Islet Precursor Cells	PANC-1-Pancreatic carcinoma cell line
iNOS-Inducible nitric oxide synthase	PBS- Phosphate buffer saline
iPSC- Induced pluripotent stem cells	PCR- Polymerase chain reaction
IR- Insulin receptor	PCSK1- Proprotein Convertase Subtilisin/Kexin Type 1
IRS- Insulin receptor substrate	PDL- Partial duct ligation
ITS-Insulin transferrin selenium	PDX-1- Pancreatic duodenal homeobox-1
kDa- Kilodaltons	PE- Phycoerythrin
KGF- Keratinocyte growth factor	
KRBH- Krebs-Ringer bicarbonate hepes buffer	
KLF4- Kruppel-like factor 4	

PFA- Paraformaldehyde	SIRT-1- Sirtuin1
PI- Propidium iodide	SSB- Single strand DNA breaks
PI3-K- phosphatidylinositol 3-kinase	SST- Somatostatin
PKB- Protein kinase B	STZ- Streptozotocin
PP-Pancreatic Polypeptide	SYBR- Synergy Brands
PPY-Polypyrrole	T1DM- Type 1 diabetes mellitus
PPAR- γ - Peroxisome proliferative activated receptor gamma	T2DM- Type 2 diabetes mellitus
PREPs-Pancreatic resident endocrine Progenitors	TBARS-Thiobarbituric acid reactive substances
Psf-TPSG-Polysulfones D- α -tocopheryl polyethylene glycol 1000 succinate	TF-Transcription factors
PPx- Partial pancreatectomy	TGF- β - Transforming growth factor- β
PTGS- Posttranscriptional gene silencing	TGS-Transcriptional gene silencing
qPCR- Quantitative PCR	TNF- Tumor necrosis factor
RISC- RNA-induced silencing complex	TRITC-Tetramethyl Rhodamine Iso-Thiocyanate
RFX6- Regulatory factor X6	TSS-Transcription start site
Reg- Regenerating islet-derived gene family	TLDA-TaqMan Low density Array
RNU6- RNA, U6 Small Nuclear-1	UCB- Umbilical cord blood
ROS-Reactive oxygen species	VEGF-Vascular endothelial growth factor
RT-PCR- Reverse transcriptase PCR	
SFM- Serum free media	
SEM-Standard error of mean	
shRNA-Short hairpin RNA	
Shh-Sonic hedgehog	
siRNA-Small interfering RNA	
SOD- superoxide dismutase	
SOX2- SRY (sex determining region Y)-box 2	
SOX17- SRY-Box Transcription Factor 17	