

## Abbreviations used

MS	Metabolic syndrome
IFG	Impaired fasting glucose
IGT	Impaired glucose tolerance
CAD	coronary artery disease
GIT	Gastrointestinal tract
T1DM	Type I diabetes mellitus
IDDM	Insulin-dependent diabetes mellitus
T2DM	Type II diabetes mellitus
GDM	Gestational diabetes mellitus
GLP-1	Glucagon Like Peptide-1
GIP	Gastric inhibitory polypeptide
DPP-IV	Dipeptidyl peptidase type IV
PC2	prohormone convertase-2
NEP	Neutral endopeptidases
GI	Gastrointestinal
PPAR $\gamma$	Peroxisome proliferators-activated receptor gamma
11 $\beta$ -HSD-1	11 $\beta$ -hydroxysteroid dehydrogenase type-1
FBPase	Fructose 1 6-bisphosphatase
GSK-3	Glycogen synthase kinase-3
SGLT2	Sodium-dependent glucose cotransporters 2
PTP-1B	Protein tyrosine phosphatases 1B
USFDA	United States Food and Drug Administration
CD26	Cluster of differentiation 26
FAP	Fibroblast activation protein
POP	Prolyl oligopeptidase
QPP	Quiescent cell prolin dipeptidase
NPY	Neuropeptide Y
I-TAC	Interferon-inducible T-cell $\alpha$ chemoattractant
GHRH	Growth-hormone-releasing hormone
IL-1	Interleukin 1
CYP	Cytochrome P450
BMS	Bristol-Myers Squibb
HbA1c	Hemoglobin A1c
DDI	Drug-drug interactions

IDT	Idiosyncratic drug toxicity
IR	Insulin receptor
IRTK	Insulin receptor tyrosine kinase
IRS	Insulin receptor substrate
GLUT-4	Glucose transporter-4
MOA	Mechanism of action
$\beta$ -PPA	$\beta$ -phenyl phenyl alanine
GABA	$\gamma$ -Amino butanoic acid
PABA	<i>Para</i> -Amino benzoic acid
PMB	<i>Para</i> -Methoxy benzyl
Aib	Amino isobutyric acid
Phg	Phenyl glycine
Chg	Cyclohexyl glycine
Phe	Phenyl alanine
His	Histidine
Ala	Alanine
Gly	Glycine
Arg	Arginine
Ile	Isolucine
Leu	Leucine
Val	Valine
Ser	Serine
Asp	Aspartic acid
Lys	Lysine
Asn	Asparagine
Tyr	Tyrosine
Trp	Tryptophan
IZD	Isothiazolidinone
TZD	Thiadiazolidinone
PK	Pharmacokinetic
PD	Pharmacodynamic
SAR	Structure activity relationship
DAST	Diethylaminosulfur trifluoride
HOBt	1-Hydroxy benzotriazole
Na <sub>2</sub> CO <sub>3</sub>	Sodium carbonate
NaHMDS	Sodium hexamethyldisilazane

NHS	N-Hydroxy succinimide
Cbz-Cl	Carboobenzoxy Chloride/ Benzyl Chloroformate
Fmoc-OSu	N-(9-Fluorenylmethoxycarbonyloxy) succinimide
TFA	Trifluoroacetic acid
TFAA	Trifluoroacetic anhydride
Pd(OH) <sub>2</sub>	Palladium hydroxide
BF <sub>3</sub> -Et <sub>2</sub> O	Boron trifluoride diethyl etherate
LiAlH <sub>4</sub>	Lithium aluminiumhydride
SOCl <sub>2</sub>	Thionyl chloride
THF	Tetrahydrofuran
NaH	Sodium hydride
CBr <sub>4</sub>	Carbon tetrabromide
NaBH <sub>4</sub>	Sodium borohydride
PPh <sub>3</sub>	Triphenyl phosphine
DMF	<i>N,N'</i> -dimethyl formamide
DCM	Dichloromethane
H <sub>2</sub>	Hydrogen
HI	Hydroiodic acid
OGTT	Oral glucose tolerance test
IPGTT	Intraperitoneal glucose tolerance test
IC <sub>50</sub>	half maximal inhibitory concentration
i.v.	Intravenous
i.p.	Intraperitoneal
p.o.	Oral
%F	Oral bioavailability
AUC	Area under curve
IFD	induced-fit docking
ACN	Acetonitrile
D. M.	Demineralized /Deionized
DIC	1,3-diisopropylcarbodiimide
SPPS	Solid Phase Peptide Synthesis
EDC	Ethylene dichloride
HPLC	High-performance liquid chromatography
LC-MS	Liquid chromatography–mass spectrometry