

## Abbreviations

AA: ascorbic acid  
AAE: ascorbic acid equivalent  
ABTS<sup>•+</sup>: 2,2'-azinobis-(3-ethylbenzothiazoline-6-sulfonate) scavenging capacity  
AC: acetone  
AcA: acetic acid  
ACE: angiotensin converting enzyme  
AIA: adjuvant-induced arthritis  
AOM: azoxymethane  
B: vitamin B  
BDB: bark of D. batatas DECNE  
BHT, butyl hydroxy toluene/ butylated hydroxytoluene  
BuOH /*n*-BuOH: *n*-butanol  
bw: body weight  
C: vitamin C  
Ca<sup>2+</sup>, Mn<sup>2+</sup>, Mg<sup>2+</sup>: metal ions (M<sup>2+</sup>)  
CAT: catalase  
CE: catechin equivalents  
CF: chloroform  
CF-MeOH: chloroform-methanol  
CGE: cyanidin glucoside equivalents  
cGMP: cyclic guanosine 3',5'-monophosphate  
ChelA: chelating activity  
COX-2: cyclooxygenase-2  
CTC: carbon tetrachloride  
CTX: cardiotoxin  
CTX: cyclophosphamide  
CUPRAC: cupric reducing antioxidant capacity  
CWE, WWE, HWE: cold, warm and hot water extraction  
Cy: cyanidin  
CYCSE: Chinese yam cold-soaking extract  
dw: dry weight  
de: dried extract  
DACNs: anthocyanins  
DCM: dichloromethane  
DE: diethyl ether  
Diosgenin L, Diosgenin M, Diosgenin H: diosgenin dose: 20 mg/kg (low), 40 mg/kg (medium), 80 mg/kg (high)  
DMBA: 7,12-dimethylbenz-[a]anthracene  
DMSO: Dimethyl sulfoxide  
DNA: deoxyribonucleic acid  
DPPH<sup>•</sup>: (2,2-diphenyl-1-picrylhydrazyl) scavenging capacity  
E: extract  
EA: ethyl acetate

EDTA: ethylene diamine tetra acetic acid  
 edw: extract dry weight  
 EF: EtOAc fraction  
 EPR: electron paramagnetic resonance  
 ESR: electron spin resonance  
 EtOH: ethanol  
 EtOH-E: ethanol extract  
 eq: equivalent  
 $\text{Fe}^{2+}, \text{Fe}^{3+}$ : ferric ion  
 fr: fraction  
 FRAP: ferric reducing antioxidant power ability  
 FW: fresh weight  
 GAE: gallic acid equivalents  
 GA: gallic acid  
 GCL: glutamate-cysteine ligase  
 GC-MS: gas chromatography-mass spectroscopy  
 GI: glycemic index  
 GPx/ GSH-Px: glutathione peroxidase  
 GR: glutathione reductase  
 GSH: reduced glutathione; tGSH: total glutathione  
 GSSH: oxidized glutathione  
 GST: glutathione-S-transferase  
 HbA1c: glycated hemoglobin  
 HCl: hydrochloric acid  
 H<sub>2</sub>O: water  
 H<sub>2</sub>O<sub>2</sub>: hydrogen peroxide  
 HCT: hydrocortisone  
 HFD: high fat diet  
 HPLC: High Performance Liquid Chromatography  
 HPLC-Q-TOF LC/MS: high-performance liquid chromatography coupled with quadrupole time-of-flight tandem mass spectrometry  
 HUVECs: human umbilical vein endothelial cells,  
 HX: hexane; *n*-hex: *n*-hexane  
 IC<sub>50</sub>/EC<sub>50</sub> effective concentration reducing 50% in the reaction present radicals  
 IBD: inflammatory bowel disease  
 IFN- $\gamma$  : interferon-gamma  
 IL-1, IL-8, IL-1 $\beta$ , IL-6,: interleukin-1, interleukin-8, interleukin-1 $\beta$ , interleukin-6 (inflammation cytokines)  
 iNOS: inducible nitric oxide synthase  
 ISO: Isoprenaline/Isoproterenol  
 KDS-Yang: “kidney-yang deficiency syndrome”;  
 LCMS-IT-TOF: liquid chromatography mass connected with ion trap and time-of-flight-mass spectrometry;  
 LPI: lipid peroxidation inhibition  
 LPO: lipid peroxide level

LPS: lipopolysaccharide  
MDA: malondialdehyde  
MeOH: methanol  
MeOH-E: methanol extract  
MPYF: modified process of yam flour  
TPYF: traditional process of yam flour  
MW: molecular weight  
NADES: natural deep eutectic solvent  
NALP3: inflammasome  
ND: not detected  
NF- $\kappa$ B: nuclear factor-Kb  
NF kappa B: nuclear factor kappa B  
NO: nitric oxide  
NO<sub>2</sub>: nitrogen dioxide radical  
•NO: nitric oxide scavenging activity  
Nrf2: nuclear factor-erythroid 2-related factor 2  
O<sub>2</sub><sup>-</sup>: superoxide radical scavenging activity  
O<sub>2</sub><sup>•-</sup>: superoxide anion scavenging activity  
•OH: hydroxyl radical scavenging activity  
ORAC: oxygen radical absorbance capacity  
PBZ: paclobutrazol  
pdw/dw: plant dry weight/dry weight  
PE: petrol ether;  
pfw: plant fresh weight  
Pg: pelargonidin  
PGE2: prostaglandin E2  
Pn: Peonidin  
PTIO•: phenyl-4,4,5,5-tetramethylimidazoline-1-oxyl 3-oxide  
Q: quercetin  
QE: quercetin equivalents  
RE: rutin equivalents  
RMD: red mold dioscorea  
RDN: rhizoma Dioscoreae nipponicae  
ROS: reactive oxygen species  
RP: reducing power  
RSA: radical scavenging activity  
Ref: reference  
SNP: sodium nitroprusside  
SOD: superoxide dismutase,  
STZ: streptozotocin  
TAC: total anthocyanin content  
T-AOC, total antioxidant capacity  
TBA: thiobarbituric acid  
TBARS: thiobarbituric acid-reacting substances

*t*BHP: *tert*-butyl hydroperoxide,  
TE: Trolox (6-hydroxy-2,5,7,8-tetramethylchroman-2-carboxylic acid) equivalent  
TFC: total flavonoid content  
TFL: total flavonol content  
TGF- $\beta$ 1: transforming growth factor- $\beta$ 1  
TNBS: trinitrobenzenesulfonic acid  
TNF- $\alpha$ : tumor necrosis factor- $\alpha$  (inflammation cytokines)  
TPC: total phenol content  
TPYF: prepared by traditional process  
TS: total saponins  
TSS: total steroid saponins  
TT: total tanin  
UAE: ultrasonic-assisted extraction  
YP: yellow powder  
UPLC-DAD-Q-TOF-MS/MS: ultra-performance liquid chromatography with diode array detection and quadrupole time-of-flight tandem mass spectrometry  
 $\alpha$ -Toc:  $\alpha$ -tocopherol  
2,7-dOH-4,6-dMetOP: 2,7-dihydroxy-4,6-dimethoxy phenanthrene  
6,7-dOH-2,4-dMetOP: 6,7-dihydroxy-2,4-dimethoxy phenanthrene  
6-OH-2,4,7-tMetOP: 6-hydroxy-2,4,7-trimethoxyphenanthrene