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LIST OF ABBREVIATIONS

%	=	Percent
r	=	Relative centrifugal force
°C	=	Degree celsius
µg	=	Microgram
µL	=	Microliter
µm	=	Micrometre
ACH ₅₀	=	Alternative Complement pathway 50% hemolytic activity
ADG	=	Average daily gain
APC	=	Antigen presenting cell
ASC	=	Ascorbate
bp	=	Base pair
BS	=	Wild-type <i>Bacillus Subtilis</i>
BS+GULO	=	Recombinant <i>Bacillus Subtilis</i>
CAT	=	Catalase
cDNA	=	Complementary DNA
CFU	=	Colony forming unit
CON	=	Control
COVID-19	=	Coronavirus disease starting in 2019
DEPC	=	Diethyl Pyrocarbonate
DNA	=	Deoxyribonucleic acid
DNase	=	Deoxyribonuclease
dNTP	=	Deoxyribonucleoside Triphosphate
e.g.	=	Exempli gratia
etc.	=	Et cetera
FCR	=	Feed conversion ratio
Fe ²⁺	=	Iron
g	=	Gram
GI	=	Gastrointestinal

LIST OF ABBREVIATIONS (Continued)

GMO	=	Genetically modified organism
GR	=	Glutathione reductase
GRBCs	=	Goat red blood cells
GSH	=	Glutathione
GSH-Px	=	Glutathione peroxidase
<i>GULO</i>	=	L-gulonolactone oxidase
H ₂ O ₂	=	Hydrogen peroxide
HPLC	=	High-performance liquid chromatography
IFN γ	=	Interferon gamma
Ig	=	Immunoglobulin
K ₂ EDTA	=	Potassium Ethylenediaminetetraacetic acid
kg	=	kilogram
L	=	Liter
LB	=	Luria–Bertani
LH	=	Lipid
LOO•	=	Lipid radical
LOOH	=	Lipid hydroperoxides
LZM	=	Lysozyme activity
m	=	Milli
M	=	Molar
MAC	=	Membrane attack complex
MDA	=	Malondialdehyde
mg	=	Milligram
mL	=	Milliliter
mm	=	Millimetre
mM	=	Millimolar
N/A	=	Not Available
NaCl	=	Normal saline
NK	=	Natural killer

LIST OF ABBREVIATIONS (Continued)

nm	=	Nanometre
O_2^-	=	Superoxide radical
O_2	=	Oxygen
OD	=	Optical density
$OH\bullet$	=	Hydroxyl radical
PA	=	Phagocytic activity
PBLs	=	Peripheral blood leukocytes
PBS	=	Phosphate-buffered saline
PCB-NaCl	=	Phosphate-citrate buffer with sodium chloride
PCR	=	Polymerase chain reaction
PEG	=	Polyethylene glycol
PER	=	Protein efficiency ratio
pH	=	Potential of hydrogen ion
PUFAs	=	Polyunsaturated fatty acids
qRT-PCR	=	Quantitative real-time PCR
RGR	=	Relative growth rate
RNA	=	Ribonucleic Acid
RNase	=	ribonuclease
ROS	=	Reactive oxygen species
RPM	=	Revolutions per minute
RPMI	=	Roswell Park Memorial Institute
SGR	=	Specific growth rate
SOD	=	Superoxide dismutase
sp.	=	Species
spp.	=	Species pluralis
SUT	=	Suranaree University of Technology
TAC	=	Total antioxidant capacity
TLR	=	Toll-like receptor
TNF	=	Tumor necrosis factor

LIST OF ABBREVIATIONS (Continued)

TNF α	=	Tumor necrosis alpha
Toc	=	Tocopherol
Toc•	=	Oxidized tocopherol
TSB	=	Tryptic soy broth
v/w	=	Volume/weight
VC	=	Vitamin C
WG	=	Weight gain