

## **Abbreviations**

ADA: Adenosine deaminase

ADP: Adenosine 5'-Diphosphate

ADSL: Adenylosuccinate lyase

ADSS: Adenylosuccinate synthetase

AICAR: 5-aminoimidazole-4-carboxamide ribonucleotide

AIR: 5'-Phosphoribosyl-5-aminoimidazole or aminoimidazole ribotide

AMP: Adenosine 5'-monophosphate

AMPK: 5'AMP-activated protein kinase

APRT: Adenine phosphoribosyltransferase

Asp: Aspartate

ATF4: Activating transcription factor 4

ATIC: 5-aminoimidazole-4-carboxamide ribonucleotide formyltransferase/IMP cyclohydrolase

ATP: Adenosine 5'-Triphosphate

CAD: Carbamoyl phosphate synthetase 2, aspartate transcarbamoylase, and dihydroorotase

CAIR: 4-carboxy-5-aminoimidazole ribonucleotide

CDA: Cytidine deaminase

CNT1/2 : Concentrative nucleoside transporter 1/2

CPSII: Carbamoyl phosphate synthase II

CTP: Cytidine 5'-triphosphate

CTPS1/2: Cytidine 5'-triphosphate synthase 1/2

DHF: dihydrofolate

DHFR: Dihydrofolate reductase

DHODH: dihydroorotate dehydrogenase

DON: 6-diazo-5-oxo-L-norleucine

dTMP: Deoxythymidine 5'-monophosphate

EML4-ALK: Echinoderm microtubule-associated protein-like 4 (EML4) and Anaplastic lymphoma kinase (ALK)

ENT1/2: Equilibrative nucleoside transporter 1/2

ERK1/2: Extracellular signal-regulated kinase1/2

ETC: Electron transport chain

FAICAR: 5-Formamidoimidazole-4-carboxamide ribonucleotide

FGAR: formylglycinamide ribonucleotide or phosphoribosyl-N-formylglycineamide

G6PD: Glucose 6-phosphate dehydrogenase

GAR: Glycinamide ribonucleotide

GART: Glycinamide ribonucleotide transformylase

GDA: Guanine deaminase

Gln: Glutamine

GLS: Glutaminase

Glu: Glutamate

Gly: Glycine

GMP: Guanosine 5'-monophosphate

GMPS: Guanosine monophosphate synthetase

GOT1/2: Glutamic-oxaloacetic transaminase 1/2

GUK1: Guanylate kinase 1

$\text{HCO}_3^-$ : Bicarbonate

HGPRT: hypoxanthine-guanine phosphoribosyltransferase

IMP: Inosine 5'-monophosphate

IMPDH1/2: Inosine 5'-monophosphate dehydrogenase1/2

LKB1: Liver Kinase B1

MEK: Mitogen-activated protein kinase kinase

mTORC1: Mechanistic target of rapamycin complex 1

OMP: Orotidine 5'-monophosphate

OPRT: Orotate phosphoribosyltransferase

PAICS: Phosphoribosylaminoimidazole carboxylase and phosphoribosylaminoimidazole succinocarboxamide synthetase

PFAS: phosphoribosylformylglycinamide synthase

PIP2: Phosphatidylinositol 4,5-bisphosphate

PIP3: Phosphatidylinositol (3,4,5)-trisphosphate

PPAT: Phosphoribosyl pyrophosphate amidotransferase

PRA: Phosphoribosylamine

PRPP: Phosphoribosyl pyrophosphate

PRPS1/2: Phosphoribosyl pyrophosphate synthetase1/2

R5P: Ribose 5-phosphate

Rheb: Ras homolog enriched in brain

RNR: Ribonucleotide reductase

S-AMP: Adenylosuccinate

S6K1: Ribosomal protein S6 kinase 1

SAICAR: Phosphoribosylaminoimidazolesuccinocarboxamide

SHMT1/2: Serine hydroxymethyltransferase 1/2

SREBP1/2: Sterol regulatory element-binding protein 1/2

TCA cycle: Tricarboxylic acid cycle

THF: Tetrahydrofolate

TSC1/2: Tuberous sclerosis complex 1/2

TYMS: Thymidylate synthase

UDP: Uridine 5'-diphosphate

UMP: Uridine 5'-monophosphate

UMPS: Uridine 5'-monophosphate Synthase

UPP1/2: Uridine phosphorylase 1/2

UTP: Uridine 5'-triphosphate

VDAC3: Voltage-dependent anion channel 3

XMP: Xanthosine 5'-monophosphate