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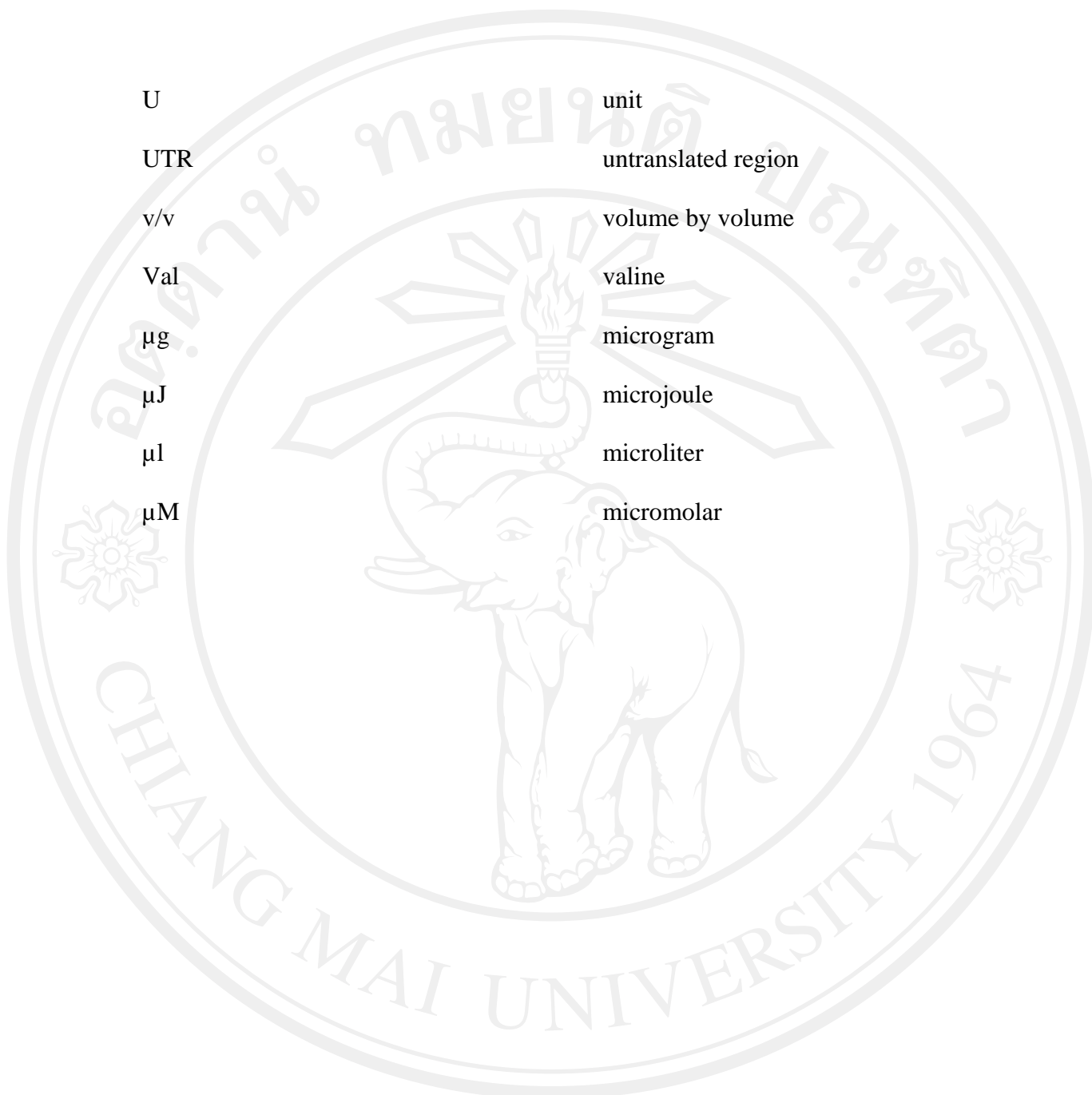
ABBREVIATIONS

Ala	alanine
Arg	arginine
Asn	asparagine
ATP	adenosine triphosphate
BSA	bovine serum albumin
bp	base pair
°C	degree Celsius
CaCl ₂	calcium chloride
Cyc	cycloguanil
Cys	cysteine
<i>dhfr</i>	dihydrofolate reductase gene
DHF	dihydrofolate
DHFR	dihydrofolate reductase enzyme
DHFS	dihydrofolate synthase enzyme
DHPS	dihydropteroate synthase enzyme
<i>dhfr-ts</i>	dihydrofolate reductase thymidylate synthase gene
DMSO	dimethyl sulfoxide
DNA	deoxyribonucleic acid
dATP	deoxyadenosine triphosphate
dCTP	deoxycytidine triphosphate

dGTP	deoxyguanosine triphosphate
dNTP	deoxynucleotide triphosphate
dTMP	deoxythymidine 5' -monophosphate
dTTP	deoxythymidine triphosphate
dUMP	deoxyuridine 5' -monophosphate
dssrna	double strand small subunit ribosomal ribonucleic acid
<i>E. coli</i>	<i>Escherichia coli</i>
ED	effective dose
EDTA	ethylenediaminetetraacetic acid
<i>g</i>	gravity
<i>g</i>	gram
GCH1	GTP-cyclohydrolase I enzyme
GFP	green fluorescent protein
HCl	hydrochloric acid
hr	hour
IC ₅₀	inhibitory concentration at 50%
i.p.	intraperitoneal injection
i.v.	intravenous
Ile	isoleucine
kb	kilobase
kV	kilovolt
LB	Luria-Bertani (broth)

Leu	leucine
MgCl ₂	magnesium chloride
min	minute
mol	mole
ml	milliliter
mM	millimolar (millimole/liter)
mRNA	messenger RNA
MTX	methotrexate
NaCl	sodium chloride
NADP ⁺	nicotinamide adenine dinucleotide phosphate
NADPH	nicotinamide adenine dinucleotide phosphate (reduced form)
NaOAc	sodium acetate
NaOH	sodium hydroxide
ng	nanogram
OD	optical density
PCR	polymerase chain reaction
<i>P. berghei</i>	<i>Plasmodium berghei</i>
<i>P. falciparum</i>	<i>Plasmodium falciparum</i>
<i>Pfdhfr-ts</i>	<i>Plasmodium falciparum</i> dihydrofolate reductase thymidylate synthase gene

<i>Pf</i> DHFR-TS	<i>Plasmodium falciparum</i> dihydrofolate reductase thymidylate synthase enzyme
PPPK	hydroxymethyldihydropterin pyrophosphokinase enzyme
PTPS	6-pyruvoyltetrahydropterin synthase
Pyr	pyrimethamine
RBC	red blood cell
RFLP	restriction fragment length polymorphism
RNA	ribonucleic acid
RNase	ribonuclease
rpm	revolution per minute
RT-PCR	reverse transcriptase polymerase chain reaction
<i>S. cerevisiae</i>	<i>Saccharomyces cerevisiae</i>
sec	second
Ser	serine
SSC	saline-sodium citrate
TE	Tris-EDTA
TS	thymidylate synthase
THF	Tetrahydrofolate
Thr	Threonine
<i>T. gondii</i>	<i>Toxoplasma gondii</i>

The seal of Chiang Mai University is a large, faint watermark in the background. It is circular, featuring an elephant in the center, a torch above its head, and a sunburst behind the torch. The Thai text 'มหาวิทยาลัยเชียงใหม่' is written along the top arc, and 'CHIANG MAI UNIVERSITY 1964' is written along the bottom arc. There are also decorative floral motifs on the left and right sides.

U	unit
UTR	untranslated region
v/v	volume by volume
Val	valine
μg	microgram
μJ	microjoule
μl	microliter
μM	micromolar