

# Cancer Science

## Standard Abbreviations List

Common abbreviations, acronyms and short names are listed below. These shortened forms can be used without definition in articles published in *Cancer Science*. The same form is used in the plural.

Ab	antibody	FCS	fetal calf serum
ADP	adenosine 5'-diphosphate	FDA	Food and Drug Administration
dADP	2'-deoxyadenosine 5'-diphosphate	FISH	fluorescence in situ hybridization
AIDS	acquired immunodeficiency syndrome	FITC	fluorescein isothiocyanate
AML	acute myelogenous leukemia	FPLC	fast protein liquid chromatography
AMP	adenosine 5'-monophosphate	FRET	fluorescence resonance energy transfer
dAMP	2'-deoxyadenosine 5'-monophosphate	GAPDH	glyceraldehyde-3-phosphate dehydrogenase
ANOVA	analysis of variance	GDP	guanosine 5'-diphosphate
ATCC	American Type Culture Collection	dGDP	2'-deoxyguanosine 5'-diphosphate
ATP	adenosine 5'-triphosphate	GFP	green fluorescent protein
dATP	2'-deoxyadenosine 5'-triphosphate	GMP	guanosine 5'-monophosphate
beta-Gal, $\beta$ -Gal	beta-galactosidase	dGMP	2'-deoxyguanosine 5'-monophosphate
bp	base pair(s)	GST	glutathione S-transferase
BrdU	5-bromodeoxyuridine	GTP	guanosine 5'-triphosphate
BSA	bovine serum albumin	dGTP	2'-deoxyguanosine 5'-triphosphate
CDP	cytidine 5'-diphosphate	HA	hemagglutinin
cCDP	2'-deoxycytidine 5'-diphosphate	H&E	hematoxylin and eosin
CHAPS	3-[(3-cholamidopropyl)dimethylamino]-1-propanesulfonate	HAT medium	hypoxanthine-aminopterin-thymidine medium
CHO	Chinese hamster ovary	HBSS	Hanks' balanced salt solution
ChIP	chromatin immunoprecipitation	HEK	human embryonic kidney
CML	chronic myelogenous leukemia	HeLa	Henrietta Lacks
CMP	cytidine 5'-monophosphate	HEPES	4-(2-hydroxyethyl)-1-piperazineethanesulfonic acid or N-2-hydroxyethylpiperazine-N'-2-ethanesulfonic acid
cCMP	2'-deoxycytidine 5'-monophosphate	His	histidine
CMV	cytomegalovirus	HMG-CoA	f3-hydroxy-f3-methylglutaryl coenzyme A reductase
CNBr	cyanogen bromide	HPLC	high-pressure or high-performance liquid chromatography
cDNA	complementary DNA	HRP	horseradish peroxidase
CoA	coenzyme A	HTLV	human T-cell lymphotropic virus
COX	cyclooxygenase	HUVEC	human umbilical vascular endothelial cell
CTL	cytotoxic T-lymphocyte	IC <sub>50</sub>	inhibitory concentration, 50%
CTP	cytidine 5'-triphosphate	ID <sub>50</sub>	infective dose, 50%
dCTP	2'-deoxycytidine 5'-triphosphate	IDP	inosine 5'-diphosphate
cyclic ADP	adenosine 3',5'-diphosphate	dIDP	2'-deoxyinosine 5'-diphosphate
cyclic AMP	adenosine 3',5'-monophosphate	IgG, IgM etc	immunoglobulin G, M, etc.
2D/3D	two-dimensional/three-dimensional	i.m.	intramuscular(ly)
DAPI	4',6-diamidino-2-phenylindole	IMP	inosine 5'-monophosphate
DEAE	diethylaminoethyl	dIMP	2'-deoxyinosine 5'-monophosphate
DIC	5-(3,3-dimethyl-[scap])[r]-triazeno)imidazole-4-carboxamide	i.p.	intraperitoneal(ly)
DMEM	Dulbecco's modified Eagle's medium	ITP	inosine 5'-triphosphate
DMSO	dimethyl sulfoxide	dITP	2'-deoxyinosine 5'-triphosphate
DNA	deoxyribonucleic acid	i.v.	intravenous(ly)
Dnase	deoxyribonuclease	JAK	Janus-activated kinase
dNTP	deoxynucleotide triphosphate	JNK	c-jun-NH <sub>2</sub> -kinase
dsDNA	double-stranded DNA	KLH	keyhole limpet hemocyanin
DTT	dithiothreitol	KO	knockout
ECL	enhanced chemiluminescence (trademarked product of Amersham Biosciences GE Healthcare)	LB medium	Luria-Bertani medium
ECM	extracellular matrix	LD	lethal dose, median
EDTA	ethylenediaminetetraacetic acid	LOH	loss of heterozygosity
ED <sub>50</sub>	effective dose, 50%	LPS	lipopolysaccharide
EGTA	ethylene glycol bis(2-aminoethyl ether)-N,N,N,N-tetraacetic acid	LTR	long terminal repeat
ELISA	enzyme-linked immunosorbent assay	mAb	monoclonal antibody
EMSA	electrophoretic mobility-shift assay	MALDI	matrix-assisted laser desorption ionization
ERK	extracellular signal-regulated kinase	MAPK	mitogen-activated protein kinase
ES cell	embryonic stem cell	MDCK	Madin-Darby canine kidney
EST	expressed sequence tag	MDR	multidrug-resistance: MDR1 human gene; mdrl murine gene; mdrla
FACS	fluorescence-activated cell sorter		
FBS	fetal bovine serum		

MEK	MAP/ERK kinase	s.c.	subcutaneous(ly)
MEKK	MAPK kinase kinase	SCID	severe combined immunodeficient
MHC	major histocompatibility complex		immunodeficiency
MMP	matrix metalloproteinase	SD	standard deviation
m.o.i., MOI	multiplicity of infection	SDS	sodium dodecyl sulfate
MOPS	4-morpholinepropanesulfonic acid; 3-(N-morpholino)propanesulfonic acid	SDS-PAGE	sodium dodecyl sulfate-polyacrylamide gel electrophoresis
MRI	magnetic resonance imaging	SEM	standard error of the mean
mRNA	messenger RNA	shRNA	short hairpin RNA
mtDNA	mitochondrial DNA	siRNA	small interfering RNA or short interfering RNA
MTT	3-(4,5-dimethylthiazol-2-yl)-2,5- diphenyltetrazolium bromide	snRNA	small nuclear RNA
NAD+	nicotinamide adenine dinucleotide, NADH	SOD	superoxide dismutase
NADP+	nicotinamide adenine dinucleotide phosphate (oxidized form)	SSC	standard saline-citrate
NADPH	nicotinamide adenine dinucleotide phosphate (reduced form)	SSCP	single-strand conformational polymorphism
NCBI	National Center for Biotechnology Information	ssDNA	single-stranded DNA
NCI	National Cancer Institute	SV40	Simian Virus 40
NIH	National Institutes of Health	t <sub>1/2</sub>	half-life (half-time)
NMR	nuclear magnetic resonance	TBE	Tris-borate EDTA
NTP	nucleotide triphosphate	TBS	Tris-buffered saline
ORF	open reading frame	TDP	thymidine 5'-diphosphate
PAGE	polyacrylamide gel electrophoresis	dTDP	2'-deoxythymidine 5'-diphosphate
PBS	phosphate-buffered saline	TEAE	triethylaminoethyl
PCR	polymerase chain reaction	TFA	trifluoroacetyl or trifluoroacetic acid
PEG	polyethylene glycol	TIMP	tissue inhibitor of metalloproteinase
PET	positron emission tomography	TLC	thin-layer chromatography
pfu	plaque-forming unit	TMP	thymidine 5'-monophosphate
PK	protein kinase	dTMP	2'-deoxythymidine 5'-monophosphate
PKC	protein kinase C	TNM	tumor-node-metastasis, system for staging cancer
pI	isoelectric point	TPA	12-O-tetradecanoylphorbol-13-acetate
PIPES	1,4-piperazinediethanesulfonic acid	TPCK	N-tosyl-L-phenylalanine chloromethyl ketone
PMA	phorbol 12-myristate 13-acetate	tRNA	transfer RNA
PBMC	peripheral blood mononuclear cells	TTP	thymidine 5'-triphosphate
PMSF	phenylmethylsulfonyl fluoride or phenylmethanesulfonyl fluoride	dTTP	2'-deoxythymidine 5'-triphosphate
poly(A)	polyadenylic acid; polyadenylate	Tris	tris(hydroxymethyl)methylamine
POPOP	1,4-bis[rsqb]2-(5-phenyloxazolyl)[rsqb] benzene	TUNEL	terminal deoxynucleotidyltransferase- mediated dUTP nick end labeling
PPO	2,5 diphenyloxazole	UDP	uridine 5'-diphosphate
Pi, Ppi	orthophosphate, pyrophosphate	dUDP	2'-deoxyuridine 5'-diphosphate
PVDF	poly(vinylidene difluoride)	UMP	uridine 5'-monophosphate
RACE	rapid amplification of cDNA ends	dUMP	2'-deoxyuridine 5'-monophosphate
rDNA	ribosomal DNA	UTP	uridine 5'-triphosphate
RFLP	restriction fragment length polymorphism	dUTP	2'-deoxyuridine 5'-triphosphate
RIA	radioimmunoassay	UTR	untranslated region
RKO cells		USP units	A unit as defined by the United States Pharmacopeia
RNA	ribonucleic acid	USPHS	United States Public Health Service
RNAi	RNA interference	UTP	uridine 5c-triphosphate
RNase	ribonuclease	UV	ultraviolet
RPMI	Roswell Park Memorial Institute	v/v	volume for volume
rRNA	spell out as 'Ribosomal RNA' in title only	WT	wild type
RT-PCR	reverse transcription-PCR	w/v	weight per volume
SAPK	stress-activated protein kinase	w/w	weight for weight
		X-Gal	5-bromo-4-chloro-3-indolyl-D-galactoside
		XTT	2,3-bis[rsqb]2-methoxy-4-nitro-S- sulfophenyl[rsqb]-2H-tetrazolium-5 carboxanilide inner salt

[Updated: July 2010]