

Abbreviations

A	
α	alpha
Ab	antibody
Ac-DEVD-AMC	acetyl-Asp-Glu-Val-Asp-7-amino-4-methyl coumarin (fluorogenic substrate for caspase-3/7)
Ac-DEVD-CHO	acetyl-Asp-Glu-Val-Asp-1-aldehyde (reversible aldehyde inhibitor of caspase-3/7)
Ac-DEVD-pNA	acetyl-Asp-Glu-Val-Asp-pNA (colorimetric substrate for caspase-3/7)
Ac-YVAD-AMC	acetyl-Tyr-Val-Ala-Asp-amino methyl coumarin (fluorogenic substrate for caspase-1)
Ac-YVAD-CHO	acetyl-Tyr-Val-Ala-Asp-1-aldehyde (reversible aldehyde inhibitor of caspase-1)
ADP	adenosine diphosphate
Ad-2	adenovirus-2
AKAP	A-kinase anchoring protein
a.m.u.	atomic mass unit
AMC	7-amino-4-methyl coumarin
amol	attomole (10^{-18} mole)
AMP	adenosine monophosphate
AMV	avian myeloblastosis virus
AP	alkaline phosphatase
AP1, 2	activator protein 1, 2
APC film	automatic processor-compatible film
ARE	AU-rich element
ATP	adenosine triphosphate
B	
β	beta
BCIP	5-bromo-4-chloro-3-indolyl phosphate
BDNF	brain-derived neurotrophic factor
BMV	brome mosaic virus
bp	base pairs
BRET	bioluminescence resonance energy transfer
BSA	bovine serum albumin
BYDV	barley yellow dwarf virus
C	
CaM KII	calcium/calmodulin-dependent protein kinase II
cAMP	adenosine-3',5'-cyclic monophosphate (cyclic AMP)
CAT	chloramphenicol acetyltransferase
CBZ	benzyloxycarbonyl
CCD	charge-coupled device (camera)
CCLR	Cell Culture Lysis Reagent
cdc2	cell division cycle 2 protein
cDNA	complementary DNA
cfu	colony forming unit
cGMP	guanosine-3',5'-cyclic monophosphate (cyclic GMP)
Ci	Curie
CIAP	calf intestinal alkaline phosphatase
CKI, CK-1	casein kinase I
CKII, CK-2	casein kinase II
cm	centimeter
CMM	canine pancreatic microsomal membranes
CMV	cytomegalovirus
CN	4-chloro-1-naphthol (a horseradish peroxidase substrate)
CNBr	cyanogen bromide
CNS	central nervous system
CNTF	ciliary neurotrophic factor
CODIS	COmbined DNA Index System
cpm	counts per minute
CPP32	caspase-3 (DEVDase)
CREB	cAMP response element binding protein
C _t	cycle threshold
CTP	cytidine triphosphate
CXR	carboxy-X-tetramethylrhodamine
D	
Da	daltons
DAB	diaminobenzidine
DAG	diacylglycerol
DAPI	4',6-diamidino-2-phenylindole
DEPC	diethyl pyrocarbonate
DEVDase	caspase protease activity on the DEVD peptide
ddRNAi	DNA-directed RNA interference
diAcFAM	diacetyl carboxyfluorescein
DLR	Dual-Luciferase® Reporter
DMSO	dimethyl sulfoxide
DNA	deoxyribonucleic acid
DNA-PK	DNA-dependent protein kinase
DNase	deoxyribonuclease
dNTP	deoxynucleotide triphosphate
DOGSS	dioctadecylamidoglycyl spermine
DOPE	L-dioleoyl phosphatidylethanolamine
DPPiV	dipeptidyl peptidase IV
dsDNA	double-stranded DNA
dsRNA	double-stranded RNA
DTT	dithiothreitol

E	
ED50	effective dose (for 50% of effect)
EDTA	ethylenediaminetetraacetic acid
EGF	epidermal growth factor
EGFR	epidermal growth factor receptor
EGTA	ethylene glycol-bis(2-aminoethylether)-N,N,N',N'-tetraacetic acid
ELISA	enzyme-linked immunosorbent assay
em	emission
ERK1, 2	extracellular signal-regulated protein kinase 1, 2
EtBr	ethidium bromide
EtOH	ethanol
ex	excitation
F	
FAB/MS	fast atomic bombardment mass spectrometry
FACS	fluorescence-activated cell sorting
FGF	fibroblast growth factor
FITC	fluorescein isothiocyanate
FITC-VAD-FMK	FITC-carbobenzoxy-valyl-alanyl-aspartyl-[O-methyl]-fluoromethylketone (fluorescent marker for caspase activity)
FL	fluorescein
fmol	femtomole (10^{-15} mole)
G	
γ	gamma
g	gram
GAPDH	glyceraldehyde-3 phosphate dehydrogenase
GDNF	glial cell line-derived neurotrophic factor
GFAP	glial fibrillary acidic protein
GFP	green fluorescent protein
GLB	Glo Lysis Buffer
GMO	genetically modified organism
GMP	guanosine monophosphate
GPDH	glycerol 3-phosphate dehydrogenase
GQ	genome qualified
GST	glutathione-S-transferase
GTP	guanosine triphosphate
H	
^3H	tritium
h	human
HC	high concentration
hCL1	synthetic CL1, a protein degradation signal
HCV	hepatitis C virus
HDPE	high-density polyethylene
HIV	human immunodeficiency virus
hLuc+	codon-optimized firefly luciferase gene
hLucCP+	hLuc+ with 3' hCL1 and hPEST sequences
hLucP+	hLuc+ with 3' hPEST sequence
hPEST	synthetic PEST, a protein degradation signal
HPLC	high-pressure or high-performance liquid chromatography
hRLuc	synthetic <i>Renilla</i> luciferase gene
hRLucCP	hRLuc with 3' hCL1 and hPEST sequences
hRLucP	hRLuc with 3' hPEST sequence
HRP	horseradish peroxidase
HSV	herpes simplex virus
HTP	high throughput
HTS	high-throughput screening
I	
IC ₅₀	inhibitory concentration (50% inhibition)
ICC	immunocytochemistry
ICE	interleukin-1 β -converting enzyme (caspase-1)
IGF	insulin-like growth factor
IgG	immunoglobulin G
IgY	immunoglobulin Y (chicken egg yolk immunoglobulin)
IHC	immunohistochemistry
IL-4	interleukin-4
IPTG	isopropyl β -D-thiogalactopyranoside
iso-dC	isodeoxycytosine
iso-dG	isodeoxyguanosine
IVEC	in vitro expression cloning
IVT	in vitro transcription
J	
JNK	c-Jun N-terminal kinase
JOE	6-carboxy-4',5'-dichloro-2',7'-dimethoxy-fluorescein
K	
kb	kilobase; kilobase pairs
kDa	kilodalton
K _m	Michaelis-Menten constant

Abbreviations

L	
λ	lambda
L	liter
LAR	Luciferase Assay Reagent
LDH	lactate dehydrogenase
LDPE	low-density polyethylene
LNGFR	low-affinity NGF receptor (p75 neurotrophin receptor)
LSC	liquid scintillation counting
<i>luc</i>	native firefly luciferase gene
<i>luc+</i>	synthetic firefly luciferase gene
LY 294002	2-(4-morpholinyl)-8-phenyl-4 H-1-benzopyran-4-one (PI-3 kinase inhibitor)
M	
m	murine; milli
M	molar
mAb	monoclonal antibody
MALDI-TOF	matrix-assisted laser desorption/ionization-time of flight mass spectrometry
MAO	monoamine oxidase
MAPK	mitogen-activated protein kinase
MCS	multiple cloning site
MEK	MAPK kinase
mg	milligram (10^{-3} g)
MGFP	Monster Green® Fluorescent Protein
μ g	microgram (10^{-6} g)
min	minute
μ l	microliter (10^{-6} L)
μ M	micromolar (10^{-6} M)
miRNA	micro RNA
ml	milliliter (10^{-3} L)
MLCK	kinase 338, myosin light chain kinase
M-MLV	Moloney murine leukemia virus
mm	millimeter (10^{-3} m)
mM	millimolar (10^{-3} M)
mRNA	messenger RNA
MTS	3-(4,5-dimethylthiazol-2-yl)-5-(3-carboxymethoxyphenyl)-2-(4-sulfophenyl)-2H-tetrazolium, inner salt
MTT	3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide
MW	molecular weight
N	
N	Normal
NaOAc	sodium acetate
NBT	nitro blue tetrazolium
NED	N-1-naphthylethylenediamine dihydrochloride
NF	N-terminal fusion
NF- κ B	nuclear factor kappa B
NGF	nerve growth factor
nmol	nanomole (10^{-9} mole)
NMR	nuclear magnetic resonance
nt	nucleotide
NT-3, NT-4	neurotrophin-3, neurotrophin-4
NTP	nucleotide triphosphate (same as rNTP)
O	
OCT1	octamer-binding transcription factor 1
ONPG	<i>o</i> -nitrophenyl β -D-galactopyranoside
P	
P450	cytochrome P450
pAb	polyclonal antibody
PAGE	polyacrylamide gel electrophoresis
PARP	poly (ADP-ribose) polymerase
PCR	polymerase chain reaction
PD 98059	2'-amino-3'-methoxyflavone, MEK1 inhibitor
PES	phenazine ethosulfate
PEG	polyethylene glycol
pg	picogram (10^{-12} g)
Pgp	P-glycoprotein
Pi	inorganic phosphate
PKA	cAMP-dependent protein kinase
PKC	protein kinase C
PKG	cGMP-dependent protein kinase
PI 3-K	phosphatidylinositol 3-kinase
PLB	Passive Lysis Buffer
PMA	phorbol 12-myristate 13-acetate (TPA), PKC activator
pmol	picomole (10^{-12} mole)
PMP	paramagnetic particle
PMS	phenazine methosulfate
PMSF	phenylmethylsulfonyl fluoride
pNA	<i>p</i> -nitroaniline
PNase F	peptide N-glycosidase F
PNPP	<i>p</i> -nitrophenyl phosphate
Poly(A)	polyadenylation sequence

PPase	protein phosphatase
PTPase	protein tyrosine phosphatase
PTK	protein tyrosine kinase
PTT	protein truncation test
PVDF	polyvinylidene fluoride
PVP	polyvinylpyrrolidone
Q	
qPCR	quantitative PCR
qRT-PCR	quantitative reverse transcriptase PCR
R	
r	recombinant
RAPD	random amplified polymorphic DNA
RF DNA	replicative form DNA
RISC	RNA-induced silencing complex
RLB	Reporter Lysis Buffer
RLU	relative light units
<i>Rluc</i>	native <i>Renilla</i> luciferase gene
RNA	ribonucleic acid
RNAi	RNA interference
RNase	ribonuclease
rNTP	ribosynucleotide triphosphate, (same as NTP)
ROS	reactive oxygen species
rRNA	ribosomal RNA
RT	reverse transcriptase
RT-PCR	reverse transcription PCR
S	
SAM	S-adenosylmethionine
SAM	streptavidin matrix
SAP	shrimp alkaline phosphatase
SB 203580	(4-[4'-fluorophenyl]-2-[4'-methylsulfinylphenyl]-5-[4'-pyridyl]imidazole), a p38 MAP kinase inhibitor
SDS	sodium dodecyl sulfate
shRNA	short hairpin RNA
siRNA	short interfering RNA
SNP	single nucleotide polymorphism
SP1	specificity protein 1
SSB	single-stranded DNA binding protein
ssDNA	single-stranded DNA
St	stearated
STR	short tandem repeat
SV40	simian virus 40
T	
TAE	tris acetate EDTA
TAP	tobacco acid pyrophosphatase
TBE	tris borate EDTA
TCA	trichloroacetic acid
TdT	terminal deoxynucleotidyl transferase
TE	Tris-EDTA buffer
TEMED	N,N,N',N'-tetramethylethylenediamine
TFIIIB	transcription factor II B
TGF $\beta_{1,2}$	transforming growth factor β 1, 2
TK	thymidine kinase
TLC	thin-layer chromatography
T_m	melting temperature
TMB	3,3',5,5'-tetramethylbenzidine
TMR	carboxy-tetramethylrhodamine
TNF α	tumor necrosis factor- α
TPA	12-O-tetradecanoylphorbol 13-acetate
TPCK	N-p-tosyl-L-phenylalanine chloromethyl ketone
Trk	tyrosine kinase neurotrophin receptor family
tRNA	transfer RNA
TTP	thymidine triphosphate
TUNEL	TdT-mediated dUTP nick-end labeling
U	
u	unit
UTP	uracil triphosphate
V	
(v/v)	volume:volume ratio
VAcHT	vesicular acetylcholine transporter
V_{max}	maximum velocity (enzyme kinetics)
W	
(w/v)	weight:volume ratio
X	
X-Gal	5-bromo-4-chloro-3-indolyl- β -D-galactopyranoside
Z	
Z-DEVD-R110	bis-(N-CBZ-L-aspartyl-L-glutamyl-L-valyl-aspartic acid amide) rhodamine 110 (fluorogenic substrate for caspase 3/7)
Z-VAD-FMK	carbobenzoxy-valyl-alanyl-aspartyl-[O-methyl]-fluoromethylketone (pan caspase inhibitor)
zmol	zeptomole (10^{-21} mole)