

List of Abbreviations

5mC	5-Methylcytosine
A2BR	Adenosine 2B receptors
AAH	Atypical adenomatous hyperplasia
ACID	Acid-rich region
ACS	American Cancer Society
ACT	Adoptive cell transfer
AD	Alzheimer's disease
ADC	adenocarcinoma
AIS	adenocarcinoma in situ
AKT1	AKT Serine/Threonine Kinase 1
ALK	Anaplastic lymphoma kinase
AMI	Acute myocardial infarction
APC	Adenomatous polyposis coli
APL	Acute promyelocytic leukemia
ARF	ADP-ribosylation factor
ATDC	Ataxia telangiectasia group D complementing
ATF6	Activating transcription factor 6
ATGL	Adipose triglyceride lipase
ATM	Ataxia Telangiectasia Mutated
ATP	Adenosine triphosphate
ATR	Ataxia telangiectasia and Rad3-related
AZA	5-Aza-2'-deoxycytidine
BAD	Bcl-2 associated agonist of cell death
BAG5	BAG cochaperone 5
BAK	Bcl-2 antagonist/killer 1
BAX	Bcl-2-associated X protein
BCA	Bicinchoninic acid
BP	Biological processes
BRAF	B-Raf proto-oncogene
BSA	Bovine serum albumin
BVDV	Bovine viral diarrhea virus
CART	Chimeric antigen receptor T cells
CASTOR2	Cytosolic Arginine Sensor For mTORC1 Subunit 2
CC	Coiled coil
CC	Cellular components
CDKN2A	Cyclin dependent kinase inhibitor 2A
cDNA	Complementary DNA
CIMP	CpG island methylator phenotype
CircDCUN1D4	Circ-defective in cullin neddylation 1 domain containing 4
CMA	Chaperone-mediated autophagy
CNVs	Copy number variants
CO ₂	Carbon dioxide
COPS5	COP9 signalosome subunit 5
COS	C-terminal subgroup one signature

CpG	5'—C—phosphate—G—3'
CRC	Colorectal cancer
CRISPR	Clustered Regularly Interspaced Short Palindromic Repeats
CRM1	Chromosome region maintenance 1
CSCLC	Combined Small Cell Lung Cancer
CTCF	Corrected Total Cell Fluorescence
CUI4A	Cullin-4A
CXCL8	C-X-C motif chemokine ligand 8
CypA	Cyclophilin A
DAPI	4',6-diamidino-2-phenylindole
DDX58	DExD/H-box helicase 58
DEGs	Differentially Expressed Genes
DEPC	Diethyl Pyrocarbonate
DNA	Deoxyribonucleic acid
DNMT	DNA methyltransferases
DNMTis	DNA methyltransferase inhibitors
ds cDNA	Double-stranded cDNA
dsDNA	Double-stranded deoxyribonucleic acid
DTX3L	Deltex E3 ubiquitin ligase 3L
EBRT	External beam radiation therapy
EDTA	Ethylenediaminetetraacetic acid
EFP	Estrogen-responsive finger protein
EGFR	Epidermal growth factor receptor
EMT	Epithelial-mesenchymal transitions
ER	Endoplasmic reticulum
ERBB2	Erythroblastic oncogene B 2
EthD-1	Ethidium homodimer-1
ETs	Extracellular traps
FACS	Fluorescence-activated cell sorting
FAM13A	Family with sequence similarity 13 member A
FBS	Fetal bovine serum
FBXW11	F-box and WD repeat domain containing 11
FBXW7	F-box and WD repeat domain containing 7
FDA	Food and Drug Administration
FDR	False discovery rate
FIL	Filamin-type IG domain
FN3	Fibronectin type III
FN3K	Fructosamine-3-kinase
FOXO3	Forkhead box O3
FP	Forward primer
GAPDH	Glyceraldehyde-3-phosphate dehydrogenase
GC	Guanine-cytosine content
GLOBOCAN	Global cancer observatory
GLUT1	Glucose transporter 1
GO	Gene ontology
GRB14	Growth factor receptor bound protein 14
gRNA	Guide RNA
GSK3β	Glycogen synthase kinase-3 beta

GWAS	Genome-wide association studies
H3C14	H3 Clustered Histone 14
HBV	Hepatitis B virus
HEPES	4-(2-hydroxyethyl)-1-piperazineethanesulfonic acid
HER2	Human epidermal growth factor receptor 2
HERC5	HECT and RLD domain containing E3 ubiquitin protein ligase 5
HF	Heart failure
HIV-1	Human Immunodeficiency Virus Type I
HK2	Hexokinase 2
HNSCC	Head and neck squamous cell carcinomas
HPV16	Human papillomavirus 16
HRP	Horseradish peroxidase
HSC70	Heat shock cognate 71 kDa protein
IAV	Influenza A virus
ICAM1	Intercellular adhesion molecule-1
ICIs	Immune checkpoint inhibitors
IFI35	Interferon Induced Protein 35
IFIH1	Interferon induced with helicase C domain 1
IFIT3	Interferon induced protein with tetratricopeptide repeats 3
IFNs	Interferons
IFN- α	Interferon Alpha
IFN- γ	Interferon Gamma
IFN- λ	Interferon Lambda
IL1B	Interleukin-1beta
IMRT	Intensity-modulated radiation therapy
IRF3	Interferon regulatory factor 3
IRF7	Interferon regulatory factor 7
IRF9	Interferon regulatory factor 9
ISG15	IFN-stimulated gene 15
ITCH	Itchy E3 ubiquitin-protein ligase
JAK1/2	Janus kinase 1/2
JNKs	c-Jun N-terminal kinases
kDa	Kilo Dalton
KEGG	Kyoto Encyclopedia of Genes and Genomes
KIF20B	Kinesin family member 20B
KO	Knockout
KRAS	Kirsten rat sarcoma viral oncogene homolog
LAMP2A	lysosomal-associated membrane protein 2A
LC	Lung cancer
LHFPL3-AS2	Lipoma HMGIC fusion partner subfamily member 3 Antisense RNA 2
LOX	Lysyl oxidases
LTR	Long terminal repeat
MAPK	Mitogen-activated protein kinase
MATH	Meprin and tumor necrosis factor receptor-associated factor homology
MDM2	Mouse double minute 2 homolog
MDS	Myelodysplastic syndrome
MEGA	Molecular Evolutionary Genetics Analysis

MET	Mesenchymal epithelial transition
MetAp-2	Methionine aminopeptidase-2
MF	Molecular functions
MGMT	O6-methylguanine-DNA methyltransferase
MHC	Major Histocompatibility Complex
MMP	Mitochondrial membrane potential
MMPs	Matrix metalloproteinases
MPM	Malignant pleural mesotheliomas
mRNA	Messenger ribonucleic acids
MS	Multiple sclerosis
MSP	Methylation specific PCR
mTOR	Mammalian target of rapamycin
NaCl	Sodium chloride
NC	Negative control
NCBI	National Center for Biotechnology Information
NCCS	National Centre for Cell Sciences
NCI-H23	Human Non-Small Cell Lung Carcinoma
NEMP1	Nuclear envelope integral membrane protein 1
NF1	Neurofibromatosis 1
NF- κ B	Nuclear factor kappa B
NGS	Next-generation sequencing
NHL	NCL-1/HT2A/LIN-41 repeat
NO _x	Nitrogen oxides
NSCLC	Non-small cell lung cancer
OS	Opitz syndrome
p53	Tumor protein p53
PAGE	Polyacrylamide gel electrophoresis
PAHs	Polycyclic aromatic hydrocarbons
PARP	Poly ADP-ribose polymerases
PARP1	Poly ADP-ribose polymerase 1
PARP14	Poly (ADP-ribose) polymerase family member 14
PBS	Phosphate-buffered saline
PCDH9	Protocadherin 9
PCR	Polymerase chain reaction
PD-1	Programmed cell death protein 1
pDCs	Plasmacytoid dendritic cells
PD-L1	Programmed death-ligand 1
PEG	Polyethylene glycol
PFKFB3	6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 3
PHD	Plant homeodomain finger
PI	Propidium iodide
pIRF7	Phosphorylated IRF7
PLAG	1-palmitoyl-2-linoleoyl-3-acetyl-rac-glycerol
PM	Particulate matter
PML	Promyelocytic leukaemia
POLR2A	RNA polymerase II subunit A
PPI	Protein-protein interaction

PRKACB	Protein kinase camp-activated catalytic subunit beta
PROTACs	Proteolysis-targeting Chimeras
PVDF	Polyvinylidene difluoride
QC	Quality control
qRT-PCR	Quantitative Real-time polymerase chain reaction
RAR α	Retinoic acid receptor- α
RB1	Retinoblastoma 1
RBCC	Ring, B-box, Coiled-Coil
RBM4	RNA Binding Motif 4
RC3H2	Ring finger and CCCH-type domains 2
RET	Ret proto-oncogene
RFP	RET finger protein
RIN	RNA integrity number
RING	Really interesting new gene
RING1	Ring Finger Protein 1
RIPA	Radioimmunoprecipitation assay buffer
RNA	Ribonucleic acid
RNF21	Ring finger protein 21
ROS	Reactive oxygen species
RP	Reverse Primer
RPMI	Roswell Park Memorial Institute
rRNA	Ribosomal ribonucleic acid
RT	Reverse transcription
SAM	S-adenosyl-L-methionine
SAMD9L	Sterile Alpha Motif Domain Containing 9 Like
SBRT	Stereotactic body radiation therapy
SCF $^{\beta}$ -TRCP	Stem cell factor β -transducin repeat-containing protein
SCLC	Small cell lung cancer
SEM	Standard error of the mean
sgRNAs	Single-guide RNAs
SLC25A5	Solute carrier family 25 member 5
SNPs	Single nucleotide polymorphisms
SPRY	SplA and ryanodine receptor
STAT1	Signal transducers and activators of transcription 1
STK11	Serine/threonine kinase 11
TALENs	Transcription activator-like effector nucleases
TANK	TRAF-associated NF- κ B activator
TGFBI	Transforming Growth Factor Beta Induced
TIEG1	Transforming growth factor beta (TGF- β) inducible early gene-1
TKIs	Tyrosine kinase inhibitors
TM	Transmembrane domain
TNF- α	Tumor necrosis factor alpha
TPD	Targeted protein degradation
TPM	Transcripts Per Million
TRAF	TNF receptor-associated factors
TRAPP	Transport protein particle
TRIM	Tripartite motif
TSGs	Tumor suppressor genes

TXNIP	Thioredoxin-interacting protein
U1 snRNP	U1 small nuclear ribonucleoprotein particle
UBA7	Ubiquitin like modifier activating enzyme 7
UBE2L6	Ubiquitin Conjugating Enzyme E2 L6
UBIP	Ubiquitous immunopoietic polypeptide
UBR4	Ubiquitin protein ligase E3 component n-recognin 4
UCP1	Uncoupling protein 1
UDG	Uracil-DNA glycosylases
UPP	Ubiquitin-proteasome pathway
UPR	Unfolded protein response
UPS	Ubiquitin-proteasome system
USP18	Ubiquitin-specific peptidase 18
USP19	Ubiquitin specific peptidase 19
USP25	Ubiquitin specific peptidase 25
USP3	Ubiquitin specific protease 3
VATS	Video-assisted thoracic surgery
VEGF	Vascular endothelial growth factor
FITC	Fluorescein isothiocyanate
VOCs	Volatile organic compounds
WBS	Williams-Bauren syndrome
WHO	World Health Organization
ZBP1	Z-DNA binding protein 1
ZEB	Zebularine
ZFNs	Zinc finger nucleases
ZNF746	Zinc finger protein 746