

Targets of Novel Drugs in Phase I Clinical Trials

- 20S proteasome
- Abl
- Activin A receptor type II-like 1 (ACVrL1), ALK1
- Akt (protein kinase B, PKB)
- Akt2 [Akt-2, protein kinase beta (PKB beta, PRKBB, PKBBETA)]
- AKT3
- Anaplastic lymphoma kinase (ALK)
- Androgen receptor (Ar)
- Angiopoietin-2 (Ang2)
- ATPase, Na⁺/K⁺ transporting, alpha 1 polypeptide (ATP1A1)
- Aurora A (Aurora-2)
- Aurora B (STK12/Aurora-1)
- Aurora C
- Axl
- Baculoviral IAP repeat-containing 5 (BIRC5), survivin
- B-cell lymphoma 2 (Bcl-2)
- Bcl-xL, BCL2-like 1 (BCL2L1)
- Bcr-Abl
- Bcr-Abl (T315I mutation)
- B-lymphocyte stimulator (BLyS)
- BRaf (B-Raf)
- Cadherin 3, type 1 (CDH3), P-cadherin
- Carcinoembryonic antigen (CEA)
- C-C chemokine receptor 4 (CCr4)
- CD105, endoglin
- CD123
- CD19
- CD20
- CD200
- CD22
- CD30
- CD33
- CD37
- CD40
- CD56
- CD70
- CD74
- Cell division cycle 7 (CDC7)
- Centromere-associated protein E (CENP-E)
- Checkpoint 1 (Chk1)
- Chemokine (C-C motif) ligand 2 (CCL2), MCP-1
- Chemokine (C-X-C motif) receptor 4 (CXCr4)
- CHK2
- Colony stimulating factor 1 (macrophage), CSF1

- Colony stimulating factor 1 receptor (CSF1r)
- CRAF (C-Raf, RAF1)
- Cyclin-dependent kinase (CDK)
- Cyclin-dependent kinase 1 (CDK1)
- Cyclin-dependent kinase 2 (CDK2)
- Cyclin-dependent kinase 4 (CDK4)
- Cyclin-dependent kinase 7 (CDK7)
- Cyclin-dependent kinase 9 (CDK9)
- Dickkopf-1 (DKK-1, DKK1)
- Dihydrofolate reductase (DHFR)
- DT-diaphorase (DTD), NAD(P)H dehydrogenase, quinone 1 (NQO1)
- E2F
- E6/E7
- Endocytic lectin receptors (EELr)
- Epidermal growth factor (EGF) receptor (EGFr, ErbB1, HER1)
- Epidermal growth factor (EGF) receptor variant III (EGFrvIII, delta 2-7 EGFr, de2-7 EGFr, DEGFr, deltaEGFr)
- Epithelial cell adhesion molecule (Ep-CAM, EpCam), TACSTD1, CD326
- Eukaryotic translation initiation factor 4E (EIF4E), eIF-4E
- Fas, CD95
- Fibroblast growth factor receptor (FGFr)
- Fibroblast growth factor receptor 1 (FGFr1, FGFr-1)
- Fibroblast growth factor receptor 2 (FGFr2)
- Fibroblast growth factor receptor 3 (FGFr3)
- Fms-like tyrosine kinase 3 (FLT3, FLT-3)
- Focal adhesion kinase (FAK)
- Folate receptor (FOLr)
- Glycoprotein NMB (gpNMB)
- H19, imprinted maternally expressed transcript (non-protein coding)
- Heat-shock protein 27 (Hsp27)
- Heat-shock protein 90 (hsp90)
- Hedgehog (Hh) signaling pathway
- Hepatocyte growth factor/scatter factor (HGF/SF or SF/HGF)
- HER2/neu (HEr-2/neu, ErbB-2, c-erbB-2, ErbB2)
- HER3 (ErbB3)
- HER4 (ErbB4)
- Histone deacetylase (HDAC)
- Histone deacetylase 1 (HDAC1)
- hTR mRNA
- Hyaluronan (HA)
- Hypoxia inducible factor 1 alpha (HIF-1alpha)
- Inhibitor of apoptosis (IAP)
- Insulin-like growth factor 1 receptor (IGF1r)
- Integrin receptors
- Janus kinase 2 (JAK2, JAK-2)
- Janus kinase 3 (JAK3, JAK-3)

- Kinesin-like spindle protein (KSP), Eg5
- Kit (c-Kit)
- Laminin receptor 1 (LAMr1)
- Mammalian target of rapamycin (mTOR)
- Mannose receptor C type 1 (MRC1), CD206
- MAPK/ERK/kinase (MEK)
- MAPK/extracellular signal-regulated kinase (ERK) kinases (MEK)
- Matrix metalloproteinase-2 (MMP-2) or gelatinase A
- Matrix metalloproteinase-9 (MMP-9) or gelatinase B
- Melanin
- Mesothelin (CAK1)
- Met [hepatocyte growth factor receptor (HGFr)/c-Met]
- Mitogen-activated protein kinase (MAPK)/ERK/kinase (MEK)
- Mitogen-activated protein kinase kinase 1 (MAP2K1)
- Mucin 1 (MUC1)
- Murine double minute 2 (MDM2), HDM2
- Neural precursor cell expressed, developmentally downregulated 8 (NEDD8) activating enzyme E1 (NEA1)
- Notch 1 (TAN1)
- Nuclear factor kappa B (NFKappaB)
- Oncofetal fibronectin (B-FN), ED-B
- P38 mitogen-activated protein kinase (p38 MAPK)
- Phosphatase and tensin homolog (PTEN)
- Phosphatidylinositol 3-kinase (PI3K)
- Phosphatidylinositol 3-kinase, class 2, alpha polypeptide (PIK3C2A), p110 alpha
- Phosphoinositide-3-kinase, catalytic, delta polypeptide (PI3KCD), p110 delta
- Plasminogen activator, urokinase (PLAU)
- Platelet-derived growth factor receptor alpha (PDGFrA)
- Platelet-derived growth factor receptor beta (PDGFrB, PDGFr)
- Polo-like kinase 1 (Plk1)
- Programmed cell death 1 (PDCD1) ligand 1 (PDCD1LG1), PD-L1, B7-H1
- Programmed cell death-1 (PDCD1)
- Prostate stem cell antigen (PSCA)
- Prostate-specific antigen (PSA)
- Prostate-specific membrane antigen (PSMA)
- Proteasome
- Protein kinase N3 (PKN3), PKNbeta
- Rad51
- RAF
- Ras
- Ret proto-oncogene (RET), glial cell-line derived neurotrophic factor receptor (GDNFr)
- Ribonucleotide reductase M2 polypeptide (RRM2)
- SH2-containing protein-tyrosine phosphatase 1 (SHP-1)
- Signal transducer and activator of transcription 3 (STAT3)

- SLAM family member 7 (SLAMF7), CS1
- Smoothed (SMO)
- Somatostatin receptors (SSTr)
- Sphingosine 1-phosphate (S1P), MBTPS1
- Spleen tyrosine kinase (Syk)
- Src (c-src, ASV)
- Src-kinase family (SKF)
- Stromal derived factor 1 (SDF-1), CXCL12
- Survivin
- Syndecan 1 (SDC1), CD138
- Telomerase
- Tenascin-C (TN-C)
- Teratocarcinoma-derived growth factor 1 (TDGF1), Cripto-1 (CR1, Cr-1)
- Terminal deoxynucleotidyl transferase (TdT)
- Thymidylate synthase (TS)
- Tie-2 (Tie2 or Tek)
- TNFr superfamily, member 12A (TNFRSF12A), Tweakr
- Toll-like receptor 7 (TLr7)
- Toll-like receptor 8 (TLr8)
- Transient receptor potential cation channel, subfamily M, member 8 (TRPM8)
- Tumor necrosis factor (TNF)-related apoptosis-inducing ligand receptor 2 (TRAIL-r2, TRAILr2), death receptor 5 (Dr5)
- Tumor necrosis factor-related apoptosis-inducing ligand (TRAIL) receptor 1 (TRAIL-r1), death receptor 4 (Dr4)
- Tyrosine kinase receptor A (trkA)
- Vascular endothelial growth factor (VEGF) receptor 1 (VEGFr1)
- Vascular endothelial growth factor (VEGF) receptor 2 (VEGFr2)/KDR
- Vascular endothelial growth factor (VEGF) receptor 3 (VEGFr3)/PCL
- Vascular endothelial growth factor (VEGF, VEGF-A, VEGFA)
- Vascular endothelial growth factor C (VEGF-C)
- X-linked inhibitor of apoptosis protein (XIAP)