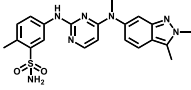
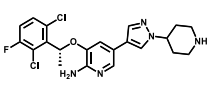
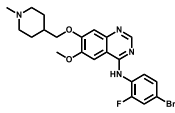
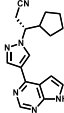
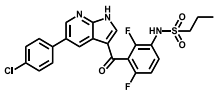
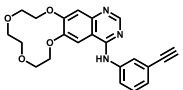
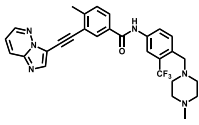
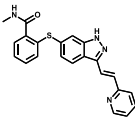
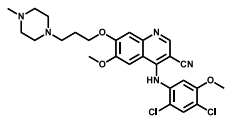
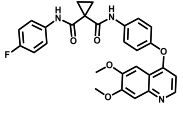
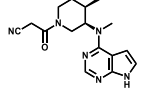
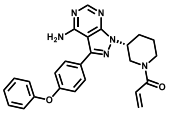
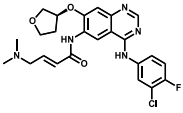
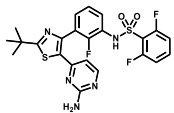
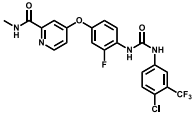
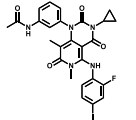
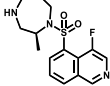
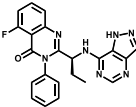
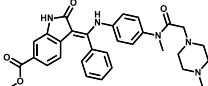
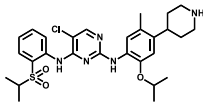
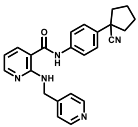
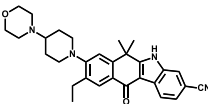
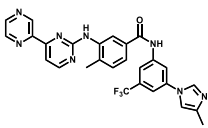
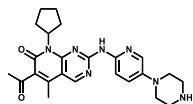
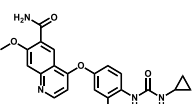
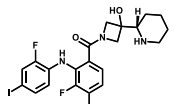
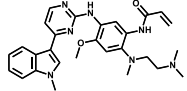
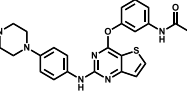
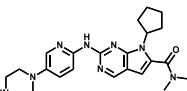
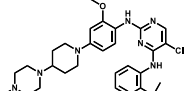
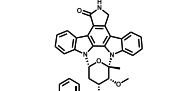
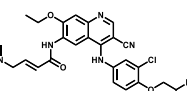
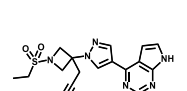
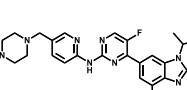
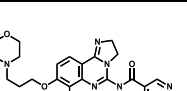
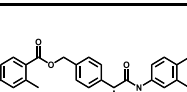
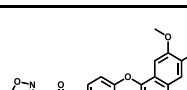
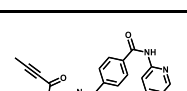
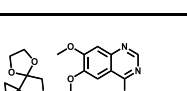
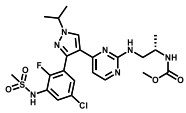
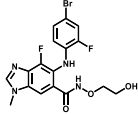
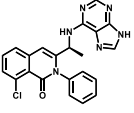
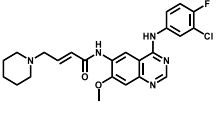
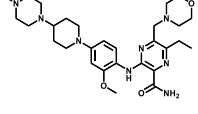
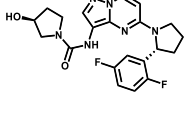
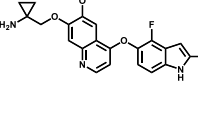
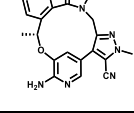
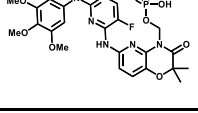
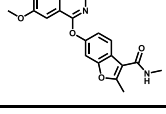
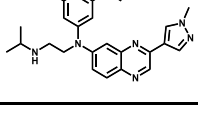
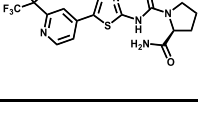
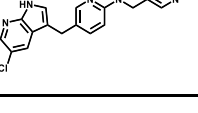


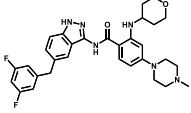
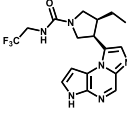
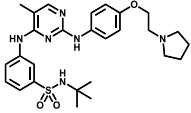
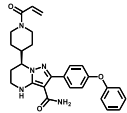
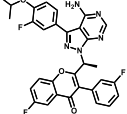
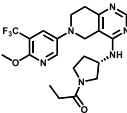
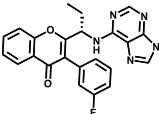
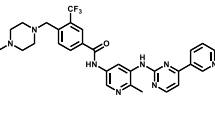
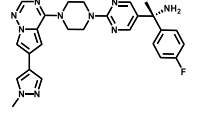
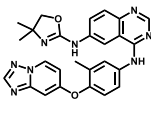
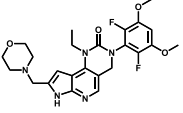
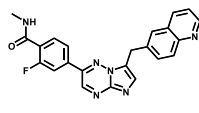
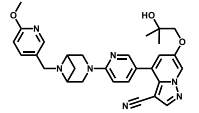
Name	Structure	Reported target	Company	Approved for clinical use	Approval Jurisdiction
Fasudil (Eril)		ROCK	Chuanwei Eril	cerebral vasospasm PAH	1995 Japan 1995 China
Sirolimus (Rapamune)		mTOR	Wyeth Pfizer	kidney transplantation	1999 FDA 2001 EMA
Imatinib		Bcr-Abl, c-KIT PDGFR	Novartis	chronic myelogenous leukemia, Ph+ ALL, HES, GIST	2001 FDA 2001 EMA
Gefitinib		EGFR	AstraZeneca	NSCLC	2003 FDA 2009 EMA
Erlotinib		EGFR	Roche-OSI	NSCLC pancreatic cancer	2004 FDA 2005 EMA
Sorafenib		VEGFR2, PDGFR, KIT, FLT3, BRAF	Bayer-Onyx	renal cancer HCC	2005 FDA 2006 EMA
Sunitinib		VEGFR, KIT, PDGFR, RET, CSF1R, FLT3	Pfizer	renal cancer	2006 FDA 2008 EMA
Dasatinib		ABL, PDGFR, KIT, SRC	Bristol-Myers Squibb	chronic myelogenous leukemia ALL	2006 FDA 2006 EMA
Lapatinib		EGFR ERBB2	GlaxoSmithKline	breast cancer	2007 FDA 2008 EMA
Nilotinib		ABL, PDGFR KIT	Novartis	chronic myelogenous leukemia	2007 FDA 2007 EMA
Temsirolimus		mTOR	Pfizer-Wyeth	advanced renal cell carcinoma	2007 FDA 2007 EMA
Everolimus		mTOR	Novartis	RCC, SEGA Transplantation	2009 FDA 2009 EMA

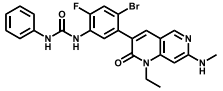
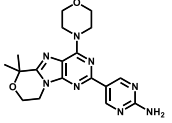
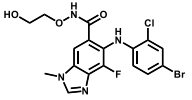
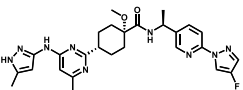
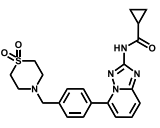
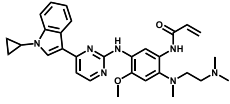
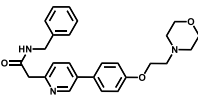
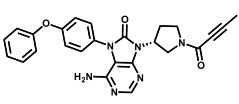
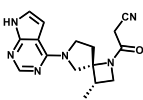
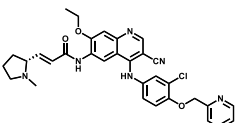
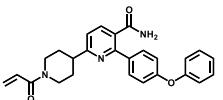
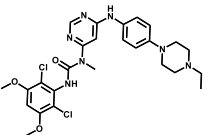
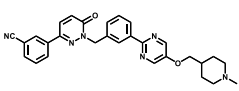
Pazopanib		VEGFR2 PDGFR c-KIT	GlaxoSmithKline	renal cell carcinoma	2009 FDA 2010 EMA
Crizotinib		ALK, MET	Pfizer	NSCLC with ALK translocations	2011 FDA 2012 EMA
Vandetanib		RET, VEGFR FGFR, EGFR	AstraZeneca	thyroid cancer	2011 FDA 2012 EMA
Ruxolitinib		JAK2	Novartis-Incyte	myelofibrosis with JAK2V617F	2011 FDA 2012 EMA
Vemurafenib		BRAF	Roche-Plexxikon	m-Melanoma with BRAFV600E	2011 FDA 2012 EMA
Icotinib		EGFR	Betta Pharmaceuticals	NSCLC	2012 China
Ponatinib		ABL	Ariad Pharmaceuticals	T315 resistant CML	2012 FDA 2013 EMA
Axitinib		VEGFR, PDGFR, KIT RET,CSF1R FLT3	Pfizer	renal cell carcinoma	2012 FDA 2012 EMA
Bosutinib		ABL	Pfizer	CML resistant/intolerant to therapy	2012 FDA 2013 EMA
Cabozantinib		VEGFR2 PDGFR, KIT FLT3	Exelixis	medullary thyroid cancer	2012 FDA 2014 EMA
Tofacitinib		JAK3	Pfizer	rheumatoid arthritis	2012 FDA 2017 EMA
Ibrutinib		BTK	Janssen Pharmacyclic	mantle cell lymphoma	2013 FDA 2013 EMA
Afatinib		EGFR	Boehringer Ingelheim	NSCLC with EGFR mutations	2013 FDA 2013 EMA

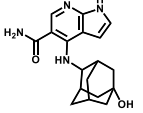
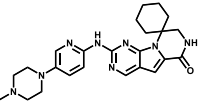
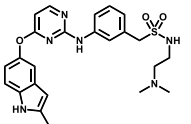
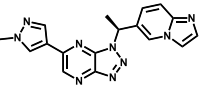
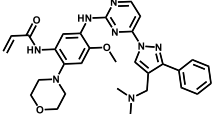
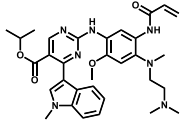
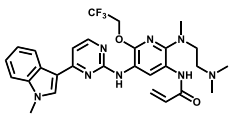
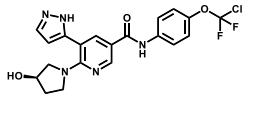
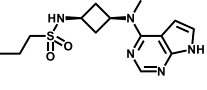
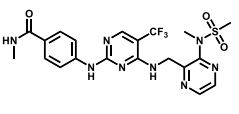
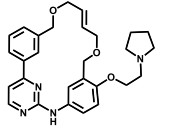
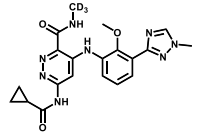
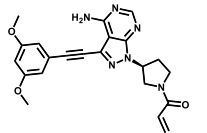
Dabrafenib		BRAF	GlaxoSmithKline	m-Melanoma with BRAFV600E	2013 FDA 2013 EMA
Regorafenib		VEGFR2 Tie2	Bayer	CRC, GIST	2012 FDA 2013 EMA
Trametinib		MEK	GlaxoSmithKline	m-Melanoma with BRAFV600E	2013 FDA 2014 EMA
Ripasudil		ROCK1/2	Kowa Company	glaucoma ocular hypertension	2014 Japan
Idelalisib		PI3K $\delta$	Gilead Sciences	chronic lymphocytic leukemia	2014 FDA 2014 EMA
Nintedanib		VEGFR PDGFR FGFR	Boehringer Ingelheim	idiopathic pulmonary fibrosis	2014 FDA 2014 EMA
Ceritinib		ALK	Novartis	NSCLC with ALK translocations	2014 FDA 2015 EMA
Apatinib Rivoceranib		VEGFR2, KIT Src	Elevar	gastric cancer, NSCLC	2014 China 2018FDA
Alectinib		ALK	Roche	NSCLC with ALK translocations	2014 Japan 2015 FDA 2017 EMA
Radotinib		Bcr-ABL PDGFR	Daewoong Pharmaceutical	chronic myelogenous leukemia	2015 S. Korea
Palbociclib		CDK4/6	Pfizer	advanced (metastatic) breast cancer	2015 FDA 2016 EMA
Lenvatinib		VEGFRs	Eisai	thyroid cancer (DTC) kidney cancer	2015 FDA 2015 EMA
Cobimetinib		MEK1/2	Roche Exelixis	melanoma, breast cancer	2015 FDA 2015 EMA

Osimertinib		EGFR	AstraZeneca	T790M+ve NSCLC	2015 FDA 2016 EMA
Olmotinib		EGFR	Boehringer Ingelheim	T790M+ve NSCLC	2016 S.Korea
Ribociclib		CDK4/6	Novartis	advanced (metastatic) breast cancer HR+, HER2-ve	2017 FDA 2017 EMA
Brigatinib		ALK T790M EGFR	Ariad Pharmaceuticals	ALK-rearranged metastatic NSCLC	2017 FDA 2018 EMA
Midostaurin		PKC, FLT3	Novartis	acute myeloid leukemia (FLT3 mutation-positive)	2017 FDA 2017 EMA
Neratinib		EGFR	Wyeth-Pfizer-Puma	HER2-positive breast cancer	2017 FDA 2018 EMA
Baricitinib		JAK1/2	Incyte Eli Lilly	rheumatoid arthritis	2017 FDA 2017 EMA
Abemaciclib		CDK4/6	Eli Lilly	advanced (metastatic) breast cancer HR+, HER2-ve	2017 FDA 2018 EMA
Copanlisib		PI3K mTOR	Bayer	relapsed follicular lymphoma	2017 FDA
Netarsudil		ROCK/NET	Aerie Pharmaceutical	glaucoma/ocular hypertension	2017 FDA 2019 EMA
Tivozanib		VEGFR	AVEO Pharmaceutical	advanced RCC	2017 EMA
Acalabrutinib		BTK	AstraZeneca Acerta Pharma	mantle cell lymphoma, CLL	2017 FDA 2018 EMA
Simotinib		EGFR	Jiangsu Simcere Pharmaceutical	solid tumours	2018 China

Encorafenib		MEK/RAF	Novartis-Array-Pfizer	BRAF mutant melanoma	2018 FDA 2018 EMA
Binimetinib		MEK/RAF	Array-Novartis-Pfizer	BRAF mutant melanoma	2018 FDA 2018 EMA
Duvelisib		PI3K $\delta/\gamma$	Verastem Oncology	CLL, SLL, FL	2018 FDA
Dacomitinib		mutant EGFR	Pfizer	NSCLC with EGFR mutations	2018 FDA 2019 EMA
Gilteritinib		FLT3 , RTKs	Astellas Pharma	acute myeloid leukemia FLT3 mutant	2018 FDA 2019 EMA 2021 China
Larotrectinib		TRKs	LOXO-Bayer	solid tumours with NTRK fusions	2018 FDA
Catequentinib		VEGFRs	Advenchen Laboratories	NSCLC	2018 China
Lorlatinib		ALK /ROS	Pfizer	ALK+ve met NSCLC	2018 FDA 2019 EMA
Fostamatinib		SYK	Rigel Pharmaceuticals	autoimmune thrombocyto-penia	2018 FDA 2020 EMA
Fruquintinib		VEGFR	Chi-Med Eli Lilly	metastatic colorectal cancer	2018 China
Erdafitinib		FGFRs	Janssen	advanced metastatic urothelial carcinoma	2019 FDA
Alpelisib		PI3K $\alpha$	Novartis	breast cancer, HR+ve, HER2-ve	2019 FDA
Pexidartinib		CSF1R, c-KIT FLT3	Daiichi Sankyo	tenosynovial giant cell tumour	2019 FDA

Entrectinib		NTRK1/2/3 ROS1, ALK	Roche	ROS1+ve NSCLC, solid tumors NTRK+ve	2019 FDA
Upadacitinib		JAK1	AbbVie	rheumatoid arthritis	2019 FDA 2019 EMA
Fedratinib		JAK3, FLT3 BRD4	Celgene	myelofibrosis	2019 FDA 2021EMA
Zanubrutinib		BTK	Beigene	mantle cell lymphoma	2019 FDA
Umbralisib		PI3Kδ	TG Therapeutic	marginal zone lymphoma	2019 FDA
Leniolisib		PI3Kδ	Novartis	APDS PASLI disease	2019 FDA
Tenalisib		PI3K δ/γ	Rhizen Pharm.	PTCL, brest cancer	2019 FDA
Flumatinib		Bcr-ABL PDGFR	Jiangsu Hansoh Pharmaceutical	chronic myelogenous leukemia	2019 China
Avapritinib		mutants KIT PDGFR	Blueprint Medicines	PDGFR exon 18 mutation D842V)+ve (incl	2020 FDA
Tucatinib		ERBB2	Seattle Genetics	HER2-positive breast cancer	2020 FDA 2021EMA
Pemigatinib		FGFR	Incyte	cholangiocarcinoma with FGFR2 fusion	2020 FDA
Capmatinib Tabrecta		mutant MET	Novartis	MET mutation+ve NSCLC	2020 FDA
Selpercatinib		RET fusions	Eli Lilly	NSCLC, MTC, thyroid cancers	2020 FDA

Ripretinib		KIT, PDGFRA incl mutants	Deciphera Pharmaceuticals	advanced GIST Mastocytosis	2020 FDA
Paxalisib		PI3K/mTOR	Kazia Therapeutics	malignant glioblastoma	2020 FDA
Selumetinib		MEK1/2	Astra Zeneca	neurofibromatosis type 1	2020 FDA
Pralsetinib		RET	Blueprint Medicines	met RET fusion +ve NSCLC MTC	2020 FDA
Filgotinib		JAK1	Gilead Galapagos	rheumatoid arthritis	2020 EMA 2020 Japan
Almonertinib		T790M EGFR	Hansoh Pharma	advanced mutation +ve NSCLC	2020 China
Tirbanibulin		Src, tubulin	Almirall	actinic keratosis	2020 FDA
Tirabrutinib		BTK	Ono Gilead	chronic myelogenous leukemia	2020 Japan
Delgocitinib		JAK	Japan Tobacco	atopic dermatitis	2020 Japan
Pyrotinib		EGFR, HER2/4	Jiangsu Hengrui	breast cancer	2020 China
Orelabrutinib		BTK	InnoCare	mantle cell lymphoma CLL, SLL	2020 China
Infigratinib		FGFR1-3	Novartis	cholangiocarcinoma	2021 FDA
Tepotinib		MET ex 14 alterations	EMD Serono	metastatic NSCLC	2020 Japan 2021 FDA

Peficitinib		JAK	Astellas Janssen	rheumatoid arthritis	2021 Japan
Trilaciclib		CDK4/6	G1 Therapeutics	SCLC chemo myelopreservation	2021 FDA
Surufatinib		VEGFR1-3	HUTCHMED	advanced pancreatic NET	2021 China
Savolitinib		c-MET	AZ-HUTCHMED	adenocarcinoma, NSCLC	2021 China
Lazertinib		EGFR mutants	Yuhan-Janssen	NSCLC	2021 S. Korea
Mobocertinib		EGFR	Janssen	NSCLC with EGFR mutations	2021 FDA
Furmonertinib		EGFR T790M	Allist Pharm.	NSCLC	2021 China
Asciminib		Bcr-ABL	Novartis	chronic myelogenous leukemia	2021 FDA
Abrocitinib		JAK1	Pfizer	atopic dermatitis	2022 FDA
Defactinib		PTK2, Pyk2 MELK	Pfizer-Verastem	solid tumours	2022 FDA
Pacritinib		JAK/IRAK	CTI BioPharm	myelofibrosis	2022 FDA
Deucravacitinib		TYK2	Bristol-Myers Squibb	psoriasis	2022 FDA
Futibatinib		FGFR2	Taiho Pharma	cholangiocarcinoma	2022 FDA