

激酶及激酶谱筛选方案

20201010

第一部分 激酶筛选

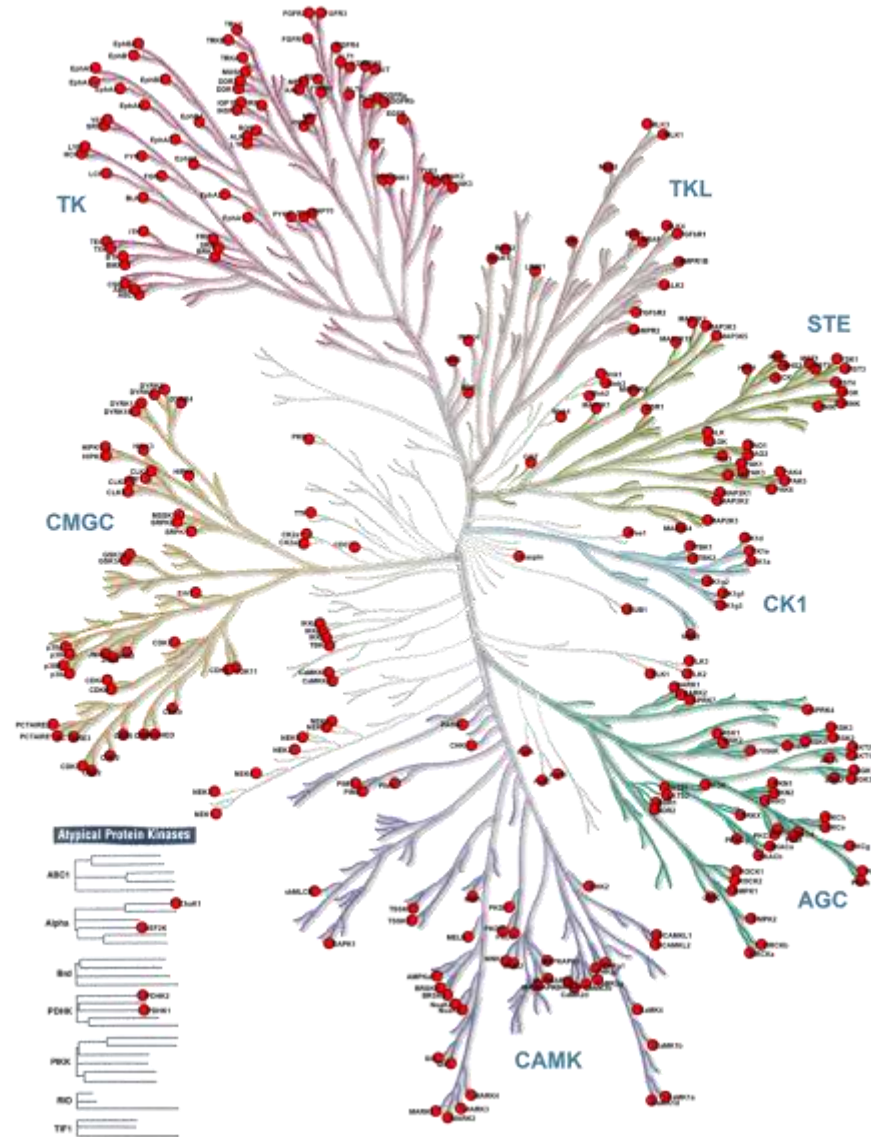
第二部分 激酶谱筛选 (207个激酶)

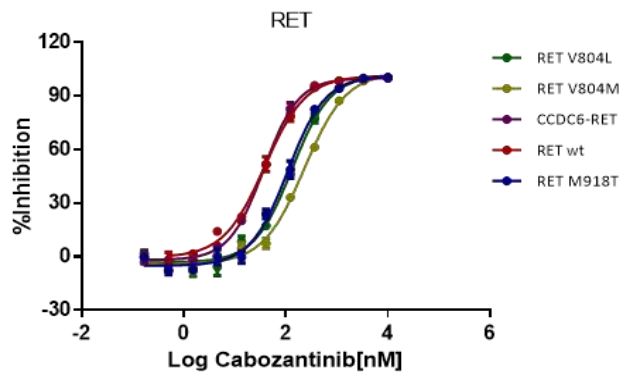
第三部分 特色小激酶谱筛选

激酶筛选列表 (377个)

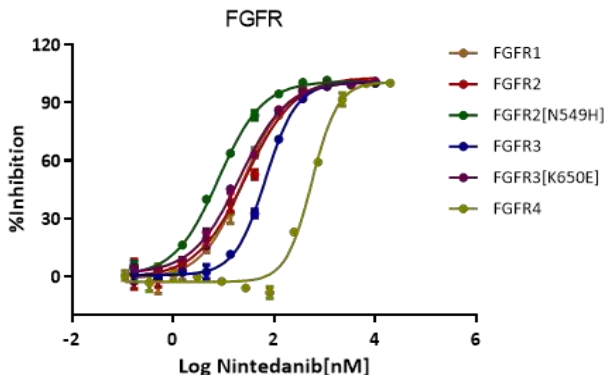
| | | | | | | | | | |
|--------------------|--------------------|--------------------------|---------------|---------------|-----------------|-----------------|-----------------|-----------------|----------------|
| ABL(ABL1) | CaMK4 | ACVRL1(ALK1) | FLT1(VEGFR1) | Her4 | LYNb | MOS | PAK5(PAK7) | PLK1 | TAOK2 |
| ARG(ABL2) | CAMKK1 | AMPKα1/β1/γ1 | FLT4(VEGFR3) | HIPK1 | MELK | MLK1(MAP3K9) | PAK6 | PLK2 | TAOK3 |
| ABL1[F317I] | CAMKK2 | CLK1 | EPHA1 | HIPK2 | MER(MERTK) | MLK2(MAP3K10) | PASK | PLK3 | TBK1 |
| ABL1[T315I] | CDC2/CycB1 | CLK2 | EPHA2 | HIPK3 | MST2(STK3) | MLK3(MAP3K11) | PBK | PRKCE | TEC |
| ACK(TNK2) | CDC7/ASK | CLK3 | EPHA3 | HIPK4 | MST3(STK24) | MNK1(MKNK1) | PDGFRα | PRKX | TGFβR1(ALK5) |
| AKT1 | CDK1/CycA2 | CLK4 | EPHA4 | GSK3β(GSK3B) | MST4/STK26 | MNK2(MKNK2) | PDGFRα[D842V] | PYK2(PTK2B) | TGFβR1[T204D] |
| AKT2 | CDK1/CycE1 | COT(MAP3K8) | EPHA5 | GPRK4(GRK4) | NIM1K(MGC42105) | MELK | PDGFRβ | QIK(SNF1LK2) | TGFβR2 |
| AKT3 | CDK2/CycA2 | CRIK(CIT) | EPHA6 | GPRK7(GRK7) | MAP2K1 | MRCKα | PDHK1(PDK1) | RAF1 | TIE2 |
| ALK | CDK2/CycE1 | CSK | EPHA7 | GSK3α(GSK3A) | MAP2K2 | MUSK | PDHK2(PDK2) | RIPK2 | TIE2[R849W] |
| ALK[G1202R] | CDK3/CycE1 | DAPK1 | EPHA8 | IGF1R | MAP2K3 | MSK1(RPS6KA5) | PGK(PRKG1) | ROCK1 | TIE2[Y1108F] |
| EML4-ALK | CDK4/CycD3 | DCAMKL1 | EPHB1 | IKK-alpha | MAP2K4 | MSK2(RPS6KA4) | PHKG1 | ROCK2 | TIE2[Y897S] |
| NPM1-ALK | CDK4/CycD1 | DCAMKL2 | EPHB2 | IKK-beta | MAP3K1 | MSSK1(STK23) | PHKG2 | RON(MST1R) | TNK1 |
| ALK2(ACVR1) | CDK5/p25NCK | DDR1 | EPHB3 | IKKε(IKBKE) | MAP3K2 | MST1(STK4) | PKR(EIF2AK2) | ROS1 | TRKA(NTRK1) |
| AurA(AURKA) | CDK5/p35NCK | DDR2 | EPHB4 | INSR | MAP3K2 | PKCα(PRKCA) | PI3K(p120gamma) | RET | TRKA[G595R] |
| AurB(AURKB)/INCENP | CDK6/CycD1 | DMPK1(DMPK) | Erk1 | IRR | MAP3K3 | PKCβ1(PRKCB1) | PIK3CA/PIK3R1 | RET[G810C] | TRKB(NTRK2) |
| AurC(AURKC) | CDK6/CycD3 | DMPK2(CDC42BPG) | Erk2 | IRAK1 | GLK | PKCβ2(PRKCB2) | PIK3CB/PIK3R1 | RET[G810R] | TRKC(NTRK3) |
| AXL | CDK7/CycH/MAT1 | DYRK1A | Erk5 | IRAK4 | HGK(ZC1) | PKCγ(PRKCG) | PIK3CD/PIK3R1 | RET[G810S] | TSSK1 |
| BARK1(ADRBK1) | CDK8/CycC | DYRK1B | Erk7(MAPK15) | JAK1 | HPK1(MAP4K1) | NDR1(STK38) | PIM1 | PTC1(CCDC6-RET) | TSSK3 |
| BARK2(ADRBK2) | CDK9/CycT1 | DYRK2 | FAK | JAK2 | KHS | NDR2(STK38L) | PIM2 | RET[M918T] | TTBK1 |
| BLK | CDK12wt/CycK | DYRK3 | FMS(CSF1R) | JAK3 | GCK | NEK1 | PIM3 | RET[S891A] | TTBK2 |
| BMPR1B(ALK6) | CDK13/CycK | DYRK4 | FGFR1 | JNK1(MAPK8) | TNIK(ZC2) | NEK2 | PKACα(PRKACA) | RET[V804L] | ITK |
| BMX | CDK16/CycY | EF2K | FGFR1[V561M] | JNK2(MAPK9) | HCK | NEK3 | PKACβ(PRKACB) | RET[V804M] | TYRO3 |
| BRAF | CDK17/p35NCK | EGFR | FGFR2 | JNK3(MAPK10) | MINK(ZC3) | NEK4 | PKACγ(PRKACG) | RET[Y806H] | VRK2 |
| BRAF[V600E] | CDK18/CycY | HER2(ERBB2) | FGFR2[N549H]] | TYK2 | MAP3K5(ASK1) | NEK6 | SIK(SNF1LK) | RSK1(RPS6KA1) | WEE1 |
| BMPR2 | CDK19/CycC | CHAK1(TRPM7) | FGFR2[V564F] | LCK | MAPKAPK2 | NEK7 | skMLCK(MYLK2) | RSK2(RPS6KA3) | WNK1 |
| BRK(PTK6) | CHAK1 | EGFR[D746-750 T790M] | FGFR3 | KIT | MAPKAPK3 | NEK9 | SLK | RSK3(RPS6KA2) | WNK2 |
| BRSK1 | CHK1(CHEK1) | EGFR[V769-D770insGE] | FGFR3[V555M] | KIT[D816V] | MAPKAPK5 | NuaK1(ARK5) | PKCδ(PRKCD) | RSK4(RPS6KA6) | WNK3 |
| BRSK2 | CHK2(CHEK2) | EGFR[L861Q] | FGFR3[K650E] | KIT[T670I] | MARK1 | NuaK2 | PKCε(PRKCE) | SRC | WNK4 |
| BTK | CK1α(CSNK1A1) | EGFR[T790M] | FGFR4 | KIT[V559D] | MARK2 | OSR1(OXSR1) | PKCζ(PRK CZ) | SRM(SRMS) | TTK |
| BTK C481S | CK1γ1(CSNK1G1) | EGFR[A763_Y764insFQEA] | FGR | LATS1 | MARK3 | p38α(MAPK14) | PKCη(PRKCH) | SGK | TXK |
| BUB1/BUB3 | CK1γ2(CSNK1G2) | EGFR[C797S] | FLT3 | LATS2 | MARK4 | p38β(MAPK11) | PKCθ(PRK CQ) | SGK2 | YES(YES1) |
| CaMK1α(CAMK1) | CK1γ3(CSNK1G3) | EGFR[d746-750T790MC797S] | FLT3[D835Y] | LIMK1 | MAP3K4 | p38γ(MAPK12) | PKCι(PRKCI) | SGK3(SGKL) | YSK1(STK25) |
| CaMK1β(PNCK) | CK1δ(CSNK1D) | EGFR[d746-750] | FLT3[ITD] | LOK(STK10) | MET | p38δ(MAPK13) | PKD1(PRKD1) | SPHK1 | YSK4(MAP3K19), |
| CaMK1δ(CAMK1D) | CK1ε(CSNK1E) | EGFR[D770_N771insNPG] | FRK | LRRK2[I2020T] | MET[D1228H] | p70S6K(RPS6KB1) | PKD2(PRKD2) | SPHK2 | ZAK |
| CaMK2α(CAMK2A) | CK2α1/β(CSNK2A1/B) | EGFR[L858R] | FYN[isoforma] | LRRK2[G2019S] | MET[D1228N] | PAK1 | PKD3(PRKD3) | SRPK1 | ZAP70 |
| CaMK2β(CAMK2B) | CK2α2/β(CSNK2A2/B) | EGFR[T790MC797SL858R] | FYN[isoformb] | LRRK2[R1441C] | MET[Y1230A] | PAK2 | PKN1 | SRPK2 | |
| CaMK2γ(CAMK2G) | CGK2(PRKG2) | EGFR[T790MC797S] | Haspin(GSG2) | LTK | MET[Y1230C] | PAK3 | PKN2 | SYK | |
| CaMK2δ(CAMK2D) | ACVR1B(ALK4) | KDR(VEGFR2) | Her2 | LYNa | MET[Y1230D] | PAK4 | PKN3 | TAOK1 | |

激酶筛选已覆盖靶点

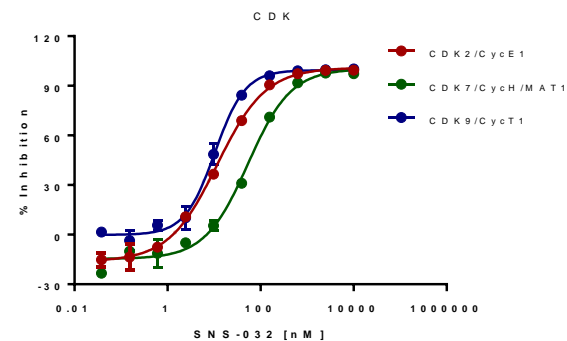




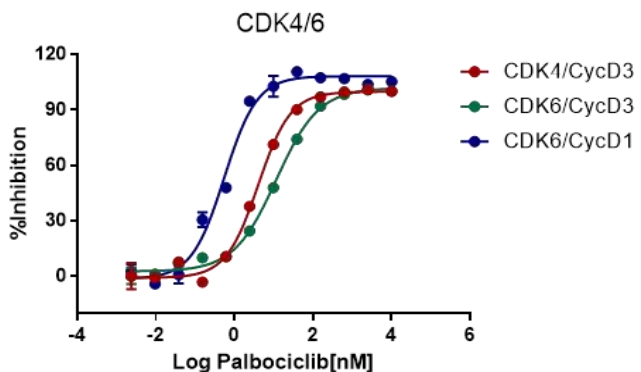
| | RET V804L | RET V804M | CCDC6-RET | RET wt | RET M918T |
|------|-----------|-----------|-----------|--------|-----------|
| IC50 | 134 | 233.1 | 37.26 | 38.6 | 110.3 |



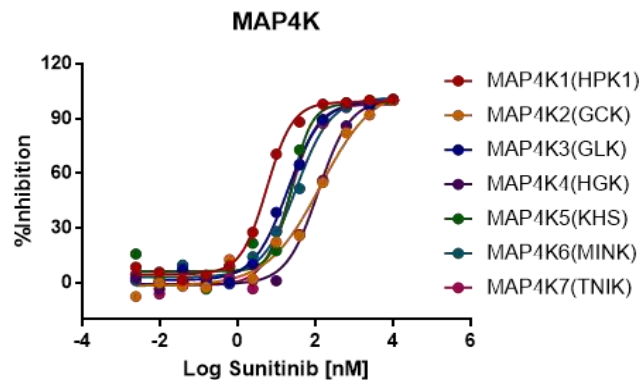
| | FGFR1 | FGFR2 | FGFR2[N549H] | FGFR3 | FGFR3[K650E] | FGFR4 |
|------|-------|-------|--------------|-------|--------------|-------|
| IC50 | 24.76 | 27.22 | 7.96 | 67.91 | 21.03 | 556.7 |



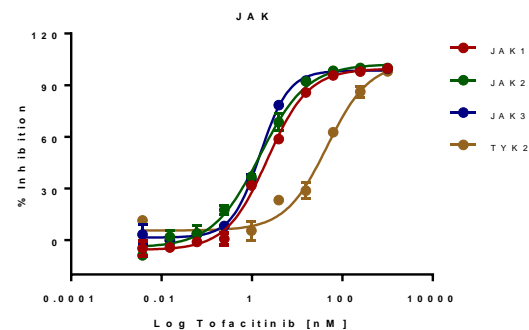
| | CDK2/CycE1 | CDK7/CycH/MAT1 | CDK9/CycT1 |
|------|------------|----------------|------------|
| IC50 | 11.69 | 53.62 | 10.43 |



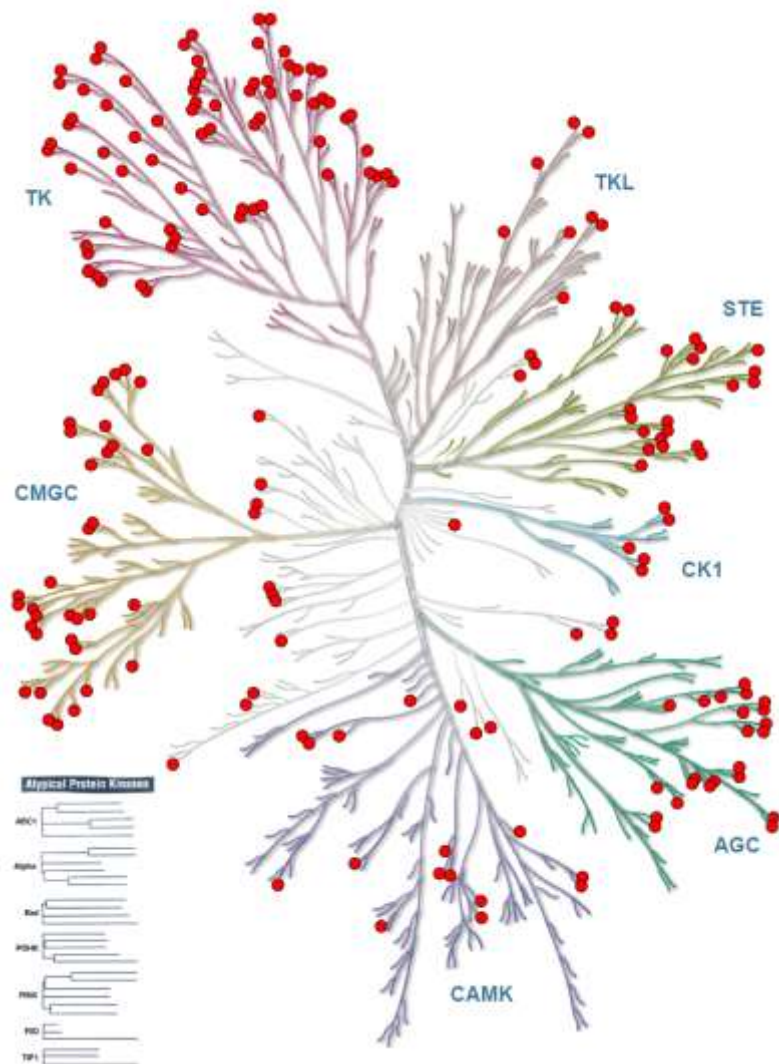
| | CDK4/CycD3 | CDK6/CycD3 | CDK6/CycD1 |
|------|------------|------------|------------|
| IC50 | 4.037 | 11.61 | 0.5513 |



| | HPK1 | GCK | GLK | HGK | KHS | MINK | TNIK |
|------|-------|-------|-------|-------|-------|-------|-------|
| IC50 | 5.597 | 138.1 | 19.23 | 118.1 | 24.32 | 32.78 | 22.23 |



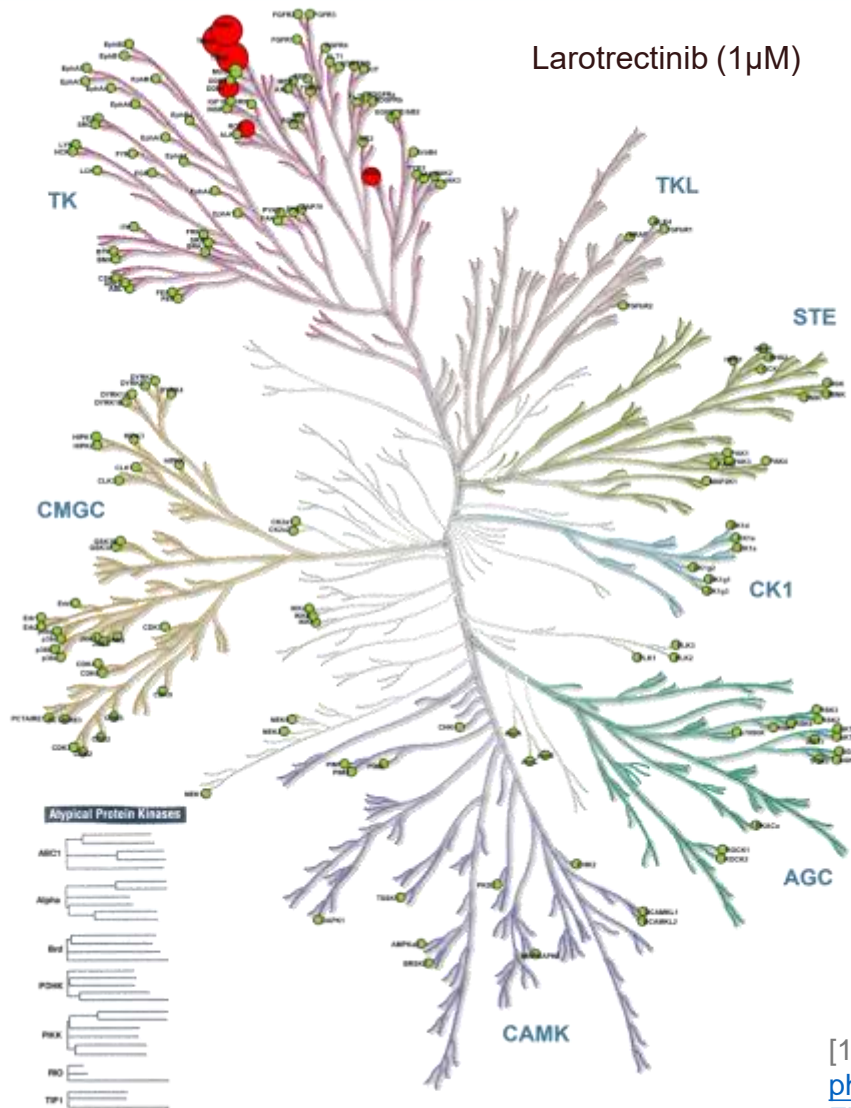
| | JAK1 | JAK2 | JAK3 | TYK2 |
|------|-------|-------|-------|------|
| IC50 | 2.206 | 1.492 | 1.527 | 46 |



- 激酶谱包括分布在AGC、CAMK、CMGC、CK1、STE、TK、TKL、脂质和非典型激酶家族中的207个激酶，以及重要的突变型。可用于评估各阶段的化合物选择性。
- 激酶活性更准确。
- 筛选周期最短可至一周以内
- 全面支持IND申报

激酶谱列表 (207个)

| | | | | | | |
|--|-------------------------|---------------|----------------|----------------|---------------|----------------|
| ABL1 | CHK2 | EPHA7 | Her4 | MAPKAPK2 | PKAC β | SGK3 |
| ABL2 | CK1 α | EPHA8 | HGK | MAPKAPK5 | PKAC γ | SLK |
| ACK | CK1 γ 1 | EPHB1 | HIPK1 | MER | PKC α | SRC |
| AKT1 | CK1 γ 2 | EPHB2 | HIPK2 | MET | PKC β 1 | SRM |
| AKT2 | CK1 γ 3 | EPHB3 | HIPK3 | MINK | PKC β 2 | STK10/LOK |
| AKT3 | CK1 δ | EPHB4 | HIPK4 | MLK1 | PKD1 | STK24/MST3 |
| ALK | CK1 ϵ | Erk1 | HPK1 | MLK2 | PKD2 | SYK |
| ALK4 | CK2 α 1/ β | Erk2 | IGF1R | MLK3 | PKD3 | TAOK1 |
| AMPK α 1/ β 1/ γ 1 | CK2 α 2/ β | Erk5 | IKK α | MUSK | PKR | TAOK2 |
| AurA | CLK1 | FAK | IKK β | NEK1 | PLK1 | TAOK3 |
| AurB | CLK3 | FER | IKK ϵ | NEK2 | PLK2 | TGF β R1 |
| AurC | CLK4 | FES | INSR | NEK9 | PLK3 | TGF β R2 |
| AXL | CSK | FGFR1 | IRR | p38 α | PRKCD | TIE2 |
| BMX | DAPK1 | FGFR2 | ITK | p38 β | PRKCE | TNIK |
| BRAF | DCAMKL1 | FGFR3 | JAK1 | p38 γ | PRKCH | TRKA |
| BRK | DCAMKL2 | FGFR4 | JAK2 | p38 δ | PRKCI | TRKB |
| BRSK2 | DDR1 | FGR | JAK3 | p70S6K | PRKCQ | TRKC |
| BTK | DDR2 | FLT1 | JNK1 | PAK1 | PRKCZ | TSSK1 |
| CAMKK2 | DYRK1A | FLT3 | JNK2 | PAK2 | PYK2 | TTK |
| CDK1/CycE1 | DYRK1B | FLT4 | JNK3 | PAK3 | RET | TYK2 |
| CDK16/CycY | DYRK2 | FMS | KDR | PAK4 | ROCK1 | TYRO3 |
| CDK18/CycY | DYRK3 | FRK | KHS | PAK5 | ROCK2 | WNK1 |
| CDK2/CycE1 | DYRK4 | FYN α | KIT | PDGFR α | RON | WNK2 |
| CDK3/CycE1 | EGFR | FYN β | LCK | PDGFR β | ROS1 | WNK3 |
| CDK4/CycD3 | EPHA1 | GLK | LYN α | PIK3CA/PIK3R1 | RSK1 | YES |
| CDK5/p35NCK | EPHA2 | GSG2 | LYN β | PIK3CB/PIK3R1 | RSK2 | ZAK |
| CDK6/CycD1 | EPHA3 | GSK3 α | MAP2K1 | PIK3CD/PIK3R1 | RSK3 | ZAP70 |
| CDK7/CycH/MAT1 | EPHA4 | GSK3 β | MAP3K2 | PIM1 | RSK4 | |
| CDK9/CycK | EPHA5 | HCK | MAP3K3 | PIM2 | SGK | |
| CHK1(CHEK1) | EPHA6 | HER2 | MAP4K2 | PIM3 | SGK2 | |

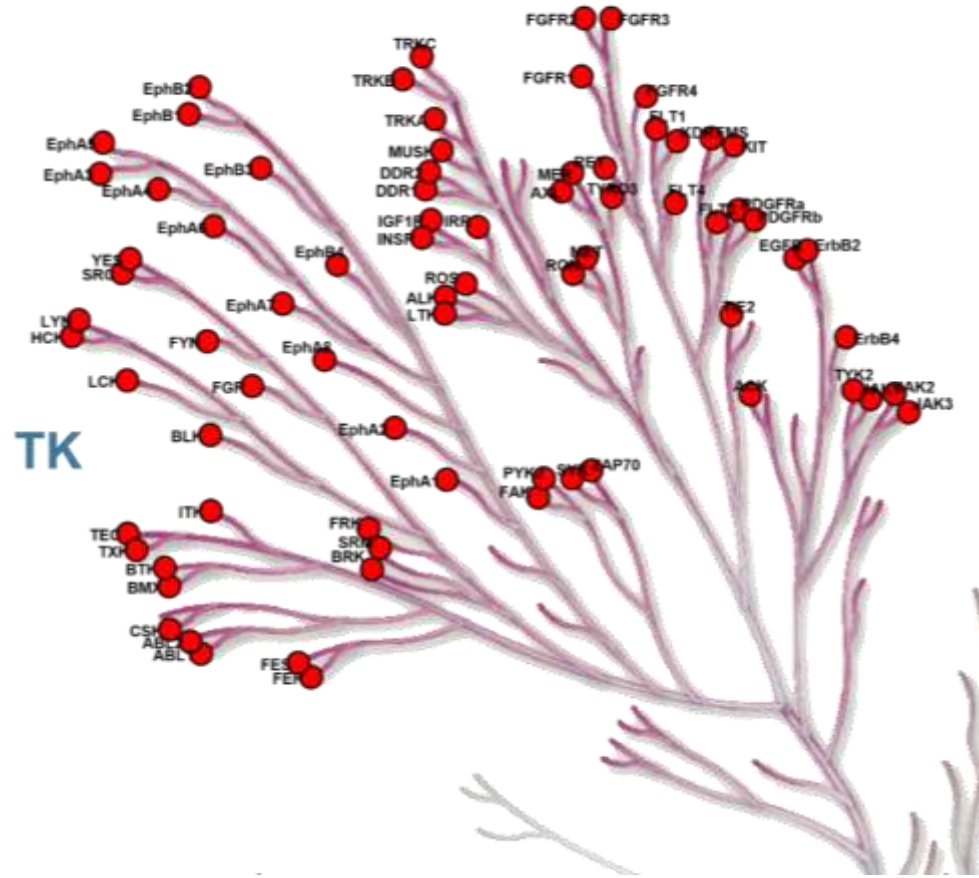


Larotrectinib (LOXO-101) is an ATP-competitive oral inhibitor of the tropomyosin-related kinase (TRK) family of receptor kinases (TRKA, B, and C), with low nanomolar 50% inhibitory concentrations against all three isoforms, and 1,000-fold or greater selectivity relative to other kinases^{[1][2]}.

[1]. [Guagnano V, et al. Discovery of 3-\(2,6-Dichloro-3,5-dimethoxy-phenyl\)-1-{6-\[4-\(4-ethyl-piperazin-1-yl\)-phenylamino\]-pyrimidin-4-yl}-1-methyl-urea \(NVP-BGJ398\), A Potent and Selective Inhibitor of the Fibroblast Growth Factor Receptor Family of Receptor T](#)

| TK kinase panel list(76 kinase) | | | |
|---------------------------------|-------|-------|--------|
| ABL1 | EPHA8 | HCK | NTRK3 |
| ABL2 | EPHB1 | IGF1R | PDGFRA |
| ALK | EPHB2 | INSR | PDGFRB |
| AXL | EPHB3 | INSRR | PTK2 |
| BLK | EPHB4 | ITK | PTK2B |
| BMX | ERBB2 | JAK1 | PTK6 |
| BTK | ERBB4 | JAK2 | RET |
| CSF1R | FER | JAK3 | ROS1 |
| CSK | FES | KDR | SRC |
| DDR1 | FGFR1 | KIT | SRMS |
| DDR2 | FGFR2 | LCK | SYK |
| EGFR | FGFR3 | LTK | TEC |
| EPHA1 | FGFR4 | LYN | TEK |
| EPHA2 | FGR | MERTK | TNK2 |
| EPHA3 | FLT1 | MET | TXK |
| EPHA4 | FLT3 | MST1R | TYK2 |
| EPHA5 | FLT4 | MUSK | TYRO3 |
| EPHA6 | FRK | NTRK1 | YES1 |
| EPHA7 | FYN | NTRK2 | ZAP70 |

TK Kinase Panel

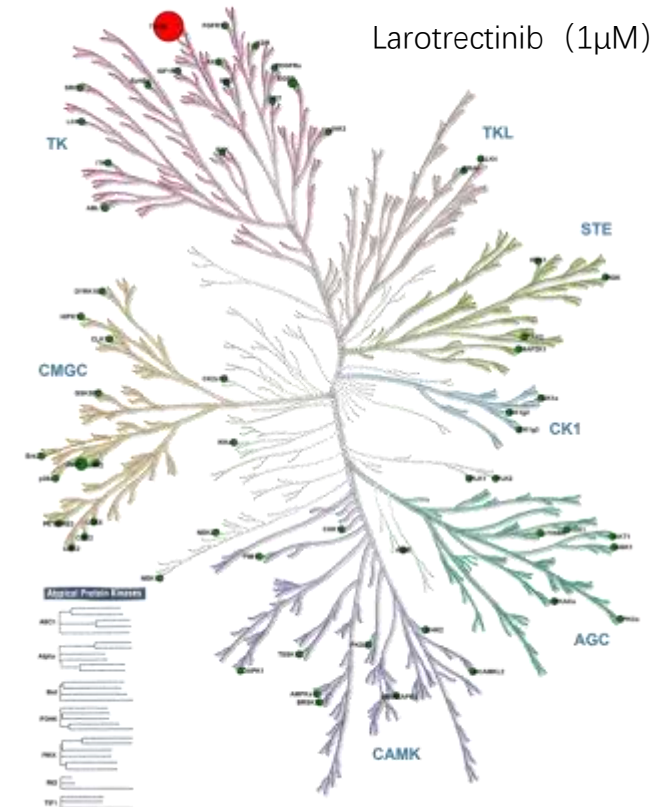
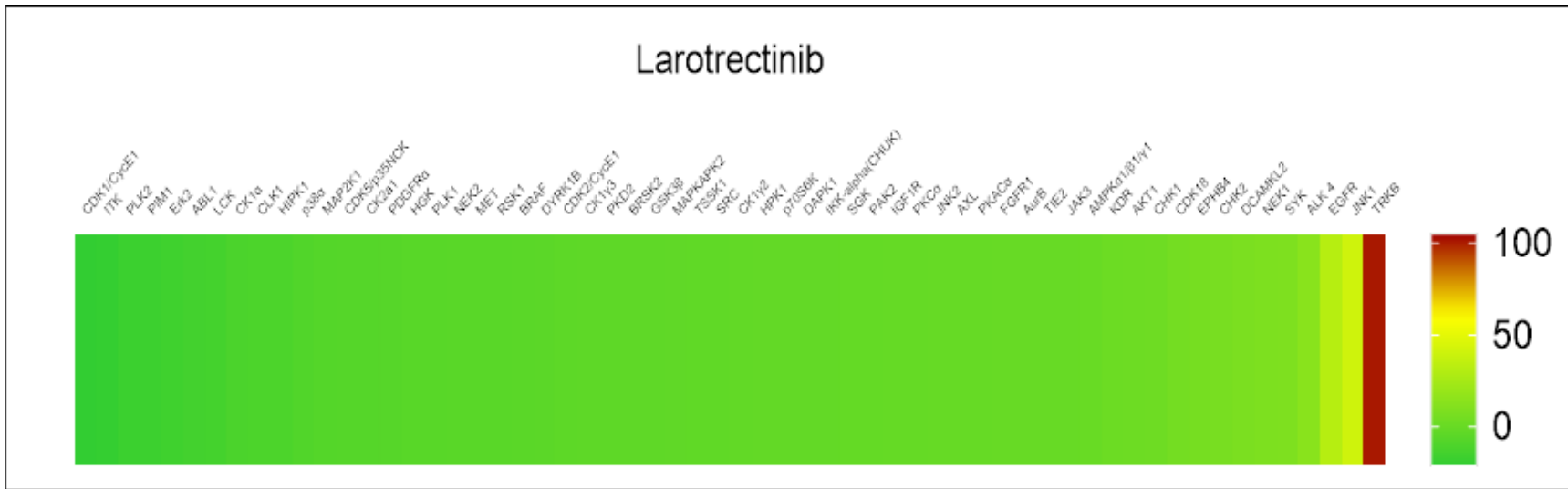


CDK家族小激酶谱 (16个)

| | | |
|------------|----------------|--------------|
| CDK1/CycA2 | CDK5/p25NCK | CDK9/CycT1 |
| CDK1/CycE1 | CDK5/p35NCK | CDK12wt/CycK |
| CDK2/CycA2 | CDK6/CycD1 | CDK13/CycK |
| CDK2/CycE1 | CDK6/CycD3 | CDK16/CycY |
| CDK3/CycE1 | CDK7/CycH/MAT1 | CDK18/CycY |
| CDK4/CycD3 | | |

| Mini kinase panel (60 kinase) | | | |
|--|----------------|--------------|----------------|
| ABL1 | CK1 γ 2 | IGF1R | PDGFR α |
| AKT1 | CK1 γ 3 | IKK-alpha | PIM1 |
| ALK 4 | CK2a1 | ITK | PKAC α |
| AMPK α 1/ β 1/ γ 1 | CLK1 | JAK3 | PKC α |
| AurB | DAPK1 | JNK1 | PKD2 |
| AXL | DCAMKL2 | KDR | PLK1 |
| BRAF | DYRK1B | LCK | PLK2 |
| BRSK2 | EGFR | MAP2K1 | ROCK1 |
| CDK1/CycE1 | EPHB4 | MAPKAPK2 | RSK1 |
| CDK18 | Erk2 | MET | SGK |
| CDK2/CycE1 | FGFR1 | NEK1 | SRC |
| CDK5/p35NCK | GSK3 β | NEK2 | SYK |
| CHK1 | HGK | p38 α | TIE2 |
| CHK2 | HIPK1 | p70S6K | TRKB |
| CK1 α | HPK1 | PAK2 | TSSK1 |

Mini Kinase (60) -- Larotrectinib (1 μ M)

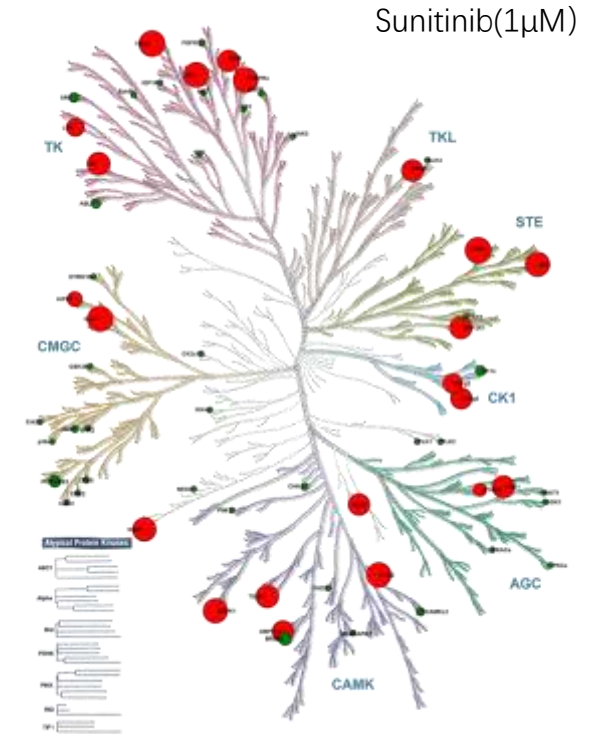
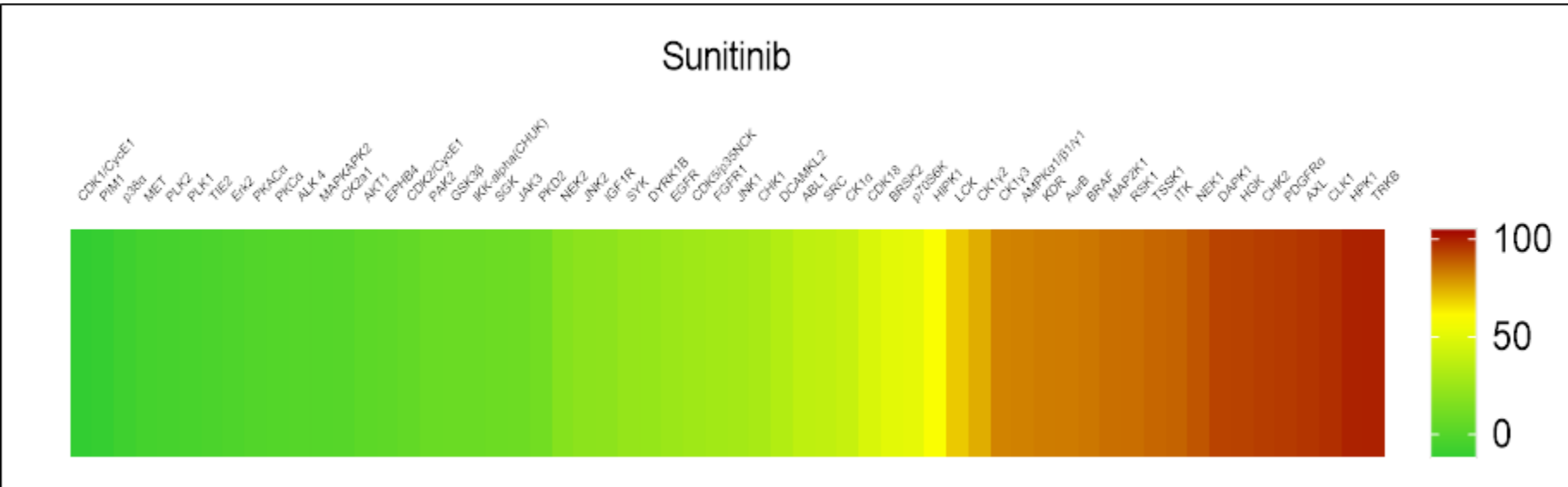


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● 绿色标记为抑制率<50%

Sunitinib (1 μ M)



● 绿色标记为抑制率<50%

- 检测方法：HTRF和ADP-Glo
- 检测类型：激酶功能检测
- 检测周期：激酶谱，5-10个工作日；IC50，2-3个工作日
- 化合物送样量：固体粉末（2-3mg），10mM储液（20-50ul）