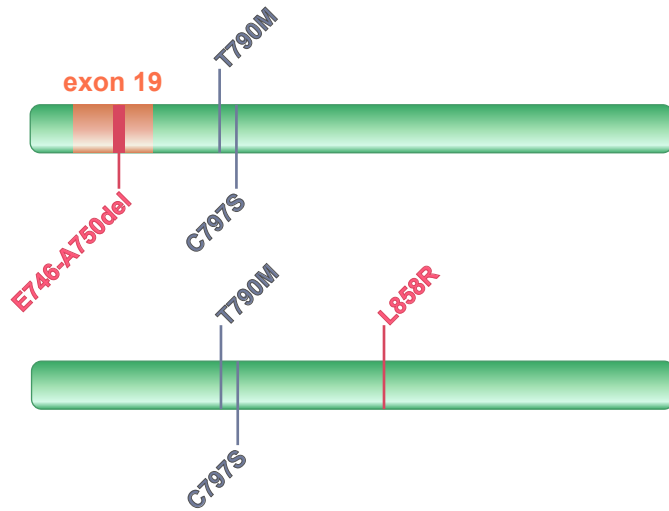


a

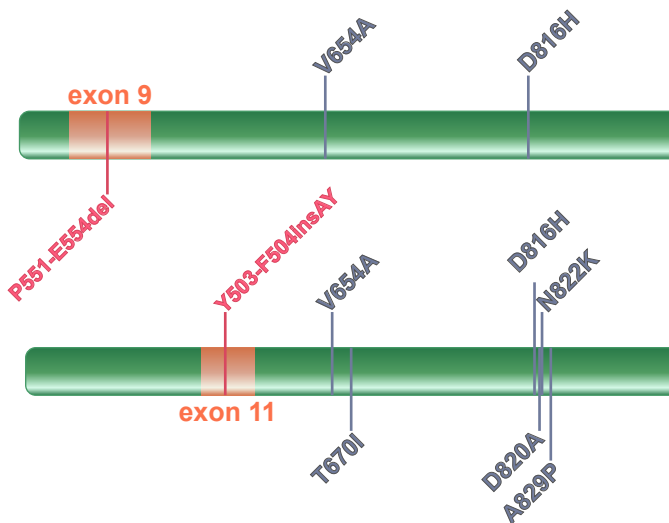
EGFR Kinase Domain



Activating Mutations
Secondary
Resistance Mutations

b

KIT Transmembrane and Kinase Domains



c

Free C_{ave} Alpha
Predicted Clinical Outcomes:
EGFR

Genotype	Afatinib	Brigatinib	Erlotinib	Gefitinib	Osimertinib
Ex19Del	(S) NA	(NA) 1.46	(S) 1.81	(S) 0.49	(S) NA
Ex19Del T	(R) 0.01	(R) 0.56	(R) 0.00	(R) 0.00	(S) 1.78
Ex19Del TC	(R) 0.00	(R) 0.29	(R) 0.00	(R) 0.00	(R) 0.00
L858R	(S) 5.96	(NA) 0.55	(S) 1.70	(S) 0.25	(S) 2.06
L858R T	(R) 0.00	(R) 0.34	(R) 0.00	(R) 0.00	(S) 1.14
L858R TC	(R) 0.00	(R) 0.50	(R) 0.11	(R) 0.01	(R) 0.00

Correct Incorrect NA

e

Free C_{ave} Alpha
Predicted Clinical Outcomes:
KIT

Genotype	Imatinib	Sunitinib	Ponatinib
Ex9Mut	(R) 0.49	(S) 0.33	(NA) NA
Ex9Mut V654A	(R) 0.00	(NA) 0.29	(NA) NA
Ex9Mut D816H	(R) 0.00	(NA) 0.00	(NA) NA
Ex11Mut	(S) 4.11	(S) 0.95	(S) 0.00
Ex11Mut V654A	(R) 0.05	(S) 0.11	(R) 0.00
Ex11Mut T670I	(R) 0.00	(S) 0.14	(NA) 0.00
Ex11Mut D816H	(R) 0.01	(R) 0.00	(NA) 0.00
Ex11Mut D820A	(R) 0.18	(R) 0.00	(S) 0.00
Ex11Mut N822K	(R) 0.32	(R) 0.00	(S) 0.00
Ex11Mut A829P	(R) 0.27	(NA) 0.00	(NA) NA

Correct Incorrect NA

d

Effective C_{ave} Alpha
Predicted Clinical Outcomes:
EGFR

Genotype	Afatinib	Brigatinib	Erlotinib	Gefitinib	Osimertinib
Ex19Del	(S) NA	(NA) 0.99	(S) 2.42	(S) 1.77	(S) NA
Ex19Del T	(R) 0.03	(R) 0.37	(R) 0.02	(R) 0.00	(S) 2.22
Ex19Del TC	(R) 0.00	(R) 0.09	(R) 0.01	(R) 0.00	(R) 0.00
L858R	(S) 8.87	(NA) 0.42	(S) 2.18	(S) 1.05	(S) 2.52
L858R T	(R) 0.02	(R) 0.31	(R) 0.01	(R) 0.00	(S) 1.42
L858R TC	(R) 0.00	(R) 0.45	(R) 0.18	(R) 0.05	(R) 0.00

Correct Incorrect NA

f

Effective C_{ave} Alpha
Predicted Clinical Outcomes:
KIT

Genotype	Imatinib	Sunitinib	Ponatinib
Ex9Mut	(R) 1.39	(S) 2.21	(NA) NA
Ex9Mut V654A	(R) 0.04	(NA) 1.23	(NA) NA
Ex9Mut D816H	(R) 0.06	(NA) 0.00	(NA) NA
Ex11Mut	(S) 4.82	(S) 3.14	(S) 2.86
Ex11Mut V654A	(R) 0.18	(S) 1.26	(R) 0.01
Ex11Mut T670I	(R) 0.00	(S) 1.52	(NA) 1.72
Ex11Mut D816H	(R) 0.03	(R) 0.02	(NA) 0.00
Ex11Mut D820A	(R) 0.59	(R) 0.02	(S) 2.97
Ex11Mut N822K	(R) 0.47	(R) 0.03	(S) 1.80
Ex11Mut A829P	(R) 0.48	(NA) 0.06	(NA) NA

Correct Incorrect NA

g

Predicted Clinical Outcomes:
KIT Ex11Mut

Genotype	Avapritinib
WT	2.05
V560D	0.25
V654A	0.10
T670I	0.00
D816H	2.02
D816G	1.70
D816V	1.84
D816Y	1.30
D820A	2.34
D820G	2.09
N822K	1.45
Y823D	1.07
A829P	0.75

Avapritinib
Drug

Predicted
Phenotype:

Sensitive
Resistant