

## Supplementary

Cancer drugs approved by the Food and Drug Administration (FDA) for treatment of lung cancers.

### Drugs Approved for Lung Cancer and pathways affected.

#### Drugs inhibiting Folate receptors are in bold.

- Abraxane (Paclitaxel Albumin-stabilized Nanoparticle Formulation)
- Afatinib Dimaleate: EGFR
- Afinitor (Everolimus): mTOR  
Afinitor Disperz (Everolimus): mTOR
- Alecensa (Alectinib): ALK
- **Alimta (Pemetrexed Disodium)** : binds to folate receptor- $\alpha$
- Alunbrig (Brigatinib): ALK and EGFR
- Atezolizumab: PD-L1
- Avastin (Bevacizumab): VEGF
- Carboplatin : Alkylating agent
- Ceritinib/Crizotinib: ALK tyrosine kinase inhibitor.
- Cyramza (Ramucirumab) : VEGFR2
- Dabrafenib Mesylate: BRAF
- Dacomitinib: EGFR subtypes
- Docetaxel: inhibitor of microtubular depolymerization,
- Doxorubicin Hydrochloride: Alkylating agent
- Durvalumab : Blocks PD-L1
- Entrectinib: ALK, TRKA, TRKB, and TRKC proteins
- Erlotinib Hydrochloride: EGFR
- Everolimus: mTORC1
- Gefitinib: selective inhibitor of EGFR
- Gilotrif (Afatinib Dimaleate) : EGFR
- Gemcitabine Hydrochloride : analog of deoxycytidine
- Imfinzi (Durvalumab): PD-L1 with PD-1
- Iressa (Gefitinib) : EGFR
- Keytruda (Pembrolizumab): PD-1 receptor
- Lorbrina (Lorlatinib) : ALK enzyme,
- Mechlorethamine Hydrochloride / Mustargen : Alkylating agent
- Mekinist (Trametinib) =: MEK1 and MEK2
- **Methotrexate** =Folate antagonist. inhibits dihydrofolate reductase (DHFR)
- Mvasi (Bevacizumab) : inhibiting VEGF-A
- Necitumumab : EGFR
- Nivolumab/ Opdivo : PD-1 receptor
- Osimertinib Mesylate: EGFR
- Paclitaxel: Inhibit microtubule assembly
- Paraplat / Paraplatin (Carboplatin) : Alkylating agent
- Pembrolizumab : binds to and blocks PD-1
- **Pemetrexed Disodium** :Multitargeted antifolate that inhibits 3 enzymes involved in folate metabolism and purine and pyrimidine synthesis. These enzymes are thymidylate synthase, dihydrofolate reductase, and glycinamide ribonucleotide formyltransferase.

- Portrazza (Necitumumab) ; EGFR
- Ramucirumab :VEGFR2
- Rozlytrek (Entrectinib) : ALK, TRKA, TRKB, and TRKC proteins
- Tafinlar (Dabrafenib Mesylate) : BRAF
- Tagrisso (Osimertinib Mesylate) : EGFR
- Tarceva (Erlotinib Hydrochloride) :EGFR
- Taxotere (Docetaxel) : Microtubule dynamic assembly and disassembly,
- Tecentriq (Atezolizumab): PD-L1
- Trametinib: MEK1 and MEK2
- **Trexall (Methotrexate):** folate antagonist. inhibits dihydrofolate reductase (DHFR)
- Vizimpro (Dacomitinib):inhibits human EGFR subtypes
- Vinorelbine Tartrate :microtubular proteins in the mitotic spindle,
- Xalkori (Crizotinib): ALK tyrosine kinase.
- Zykadia (Ceritinib) : ALK tyrosine kinase.