1. Cetuximab
MOA: Monoclonal antibody directed against EGFR
USE: Colon CA, Squamous Cell carcinoma
Resistance: Constitutively active down stream kinases
SE: Hypersensitivity, Acneiform rash, Diarrhea

2. Trastuzumab, Pertuzumab
MOA: Monoclonal antibody directed against HER-2
USE: HER-2 positive Breast CA, Gastric CA
SE: Hypersensitivity, Diarrhea, Cardiotoxicity (w/ anthracyclines) - HER2 decreases oxidative stress

3. Bevacizumab
MOA: Monoclonal antibody directed against VEGF → prevents angiogenesis
USE: Metastatic colon CA, Lung CA, Metastatic Breast CA
Resistance: Alternative angiogenic pathways
SE: Hypersensitivity, Fatigue, diarrhea, GI bleeding

4. Rituximab
MOA: Monoclonal antibody directed against CD20 antigen on B-cells → activation of NK cells, apoptosis
USE: Non-Hodgkin's lymphoma, CLL (CHOP-**R**), RA
SE: Hypersensitivity, serum sickness

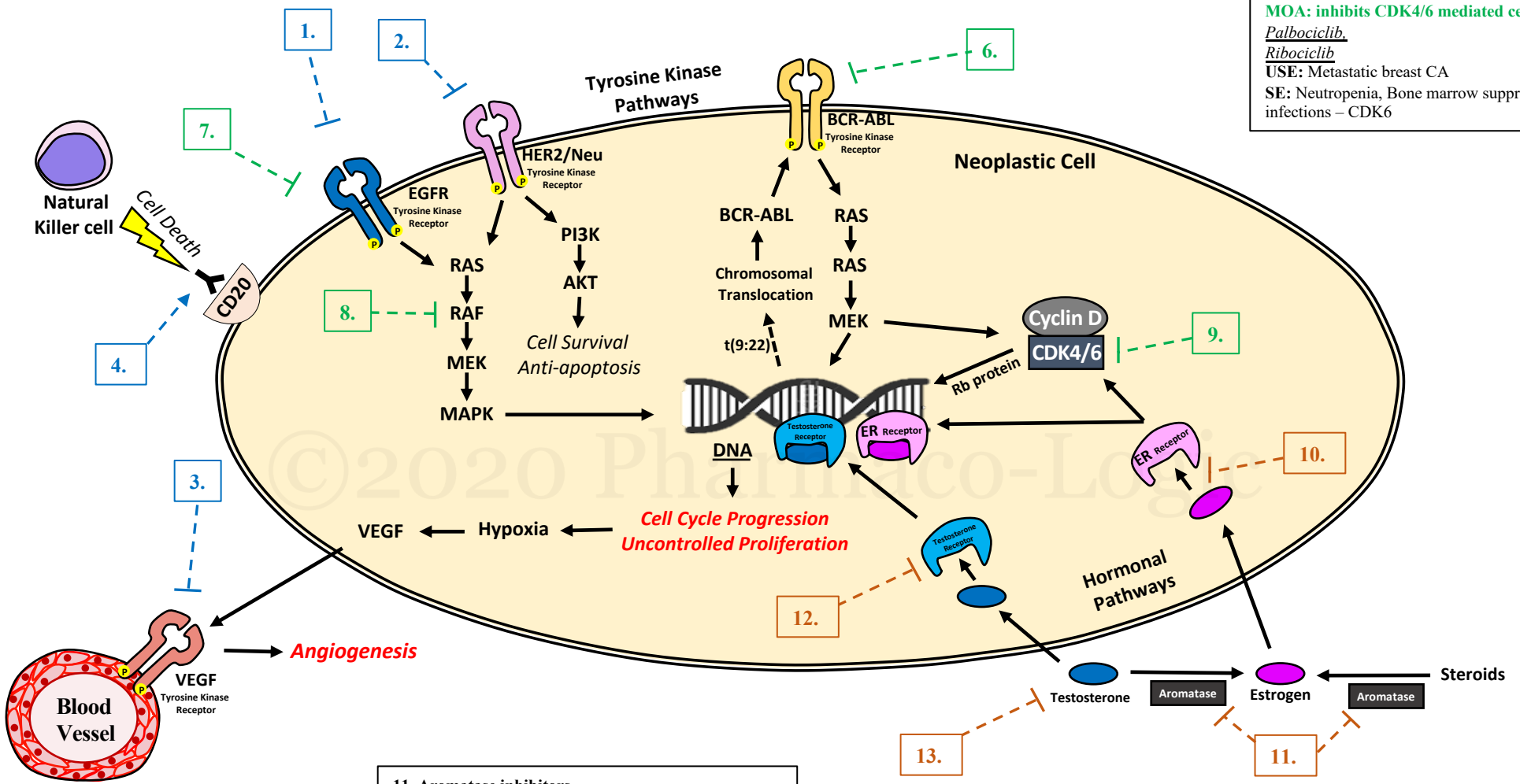
5. Gemtuzumab ozogamicin
MOA: Antibody conjugated to Calicheamicin → targets CD33 → binds to DNA and causes DNA Breaks
USE: AML – CD33+
SE: Myelosuppression, Hepatotoxicity, Hypersensitivity

6. Tyrosine Kinase inhibitors – BCR-ABL
MOA: Inhibits BCR-ABL tyrosine kinase
Imatinib, Ponatinib
USE: Philadelphia (+) CML , ALL, GI tumors
Resistance: BCR-ABL amplification/mutation
SE: Myelosuppression, GI distress, fluid retention

7. Tyrosine Kinase inhibitors - EGFR
MOA: Inhibits EGFR receptor autophosphorylation
Erlotinib, Gefitinib
USE: NSC Lung CA, Pancreatic CA
SE: Rash, Nausea, vomiting

8. BRAF inhibitors
MOA: inhibits BRAF mediated cell proliferation
Vemurafenib, Dabrafenib
USE: Melanoma, NSC Lung CA
SE: Skin cancer

9. CDK4/6 inhibitors
MOA: inhibits CDK4/6 mediated cell cycle progression
Palbociclib,
Ribociclib
USE: Metastatic breast CA
SE: Neutropenia, Bone marrow suppression, Leukopenia, infections – CDK6



10. Selective Estrogen Receptor Modulators
MOA: Binds to and inhibits Estrogen Receptor → decreases ER mediated proliferation
Tamoxifen Antagonist-breast, Agonist-bone/endometrium
Raloxifene
USE: ER(+) breast cancer
SE: Hot flushes, ↑ risk of DVT and endometrial CA

11. Aromatase inhibitors
MOA: Prevents the conversion of testosterone to estrogen → decreased ER receptor activation
Anastrozole
Letrozole
USE: Postmenopausal ER(+) breast cancer (SERM resistant)
SE: Osteoporosis, ↑ risk of DVT

12. Anti-androgens
MOA: Androgen receptor antagonist
Flutamide
Bicalutamide
USE: Prostate CA – prevent androgen surge from Goserelin TX
SE: Hot flushes, Gynecomastia, ↑ risk of Breast CA

13. Hormonal Feedback Regulators
MOA: Synthetic analog of GnRH → activates negative feedback loop → decreased estrogen/testosterone production
Leuprolide
Goserelin
USE: Breast CA, Prostate CA, Uterine fibroids, endometriosis
SE: Hot flushes, Impotence, osteoporosis