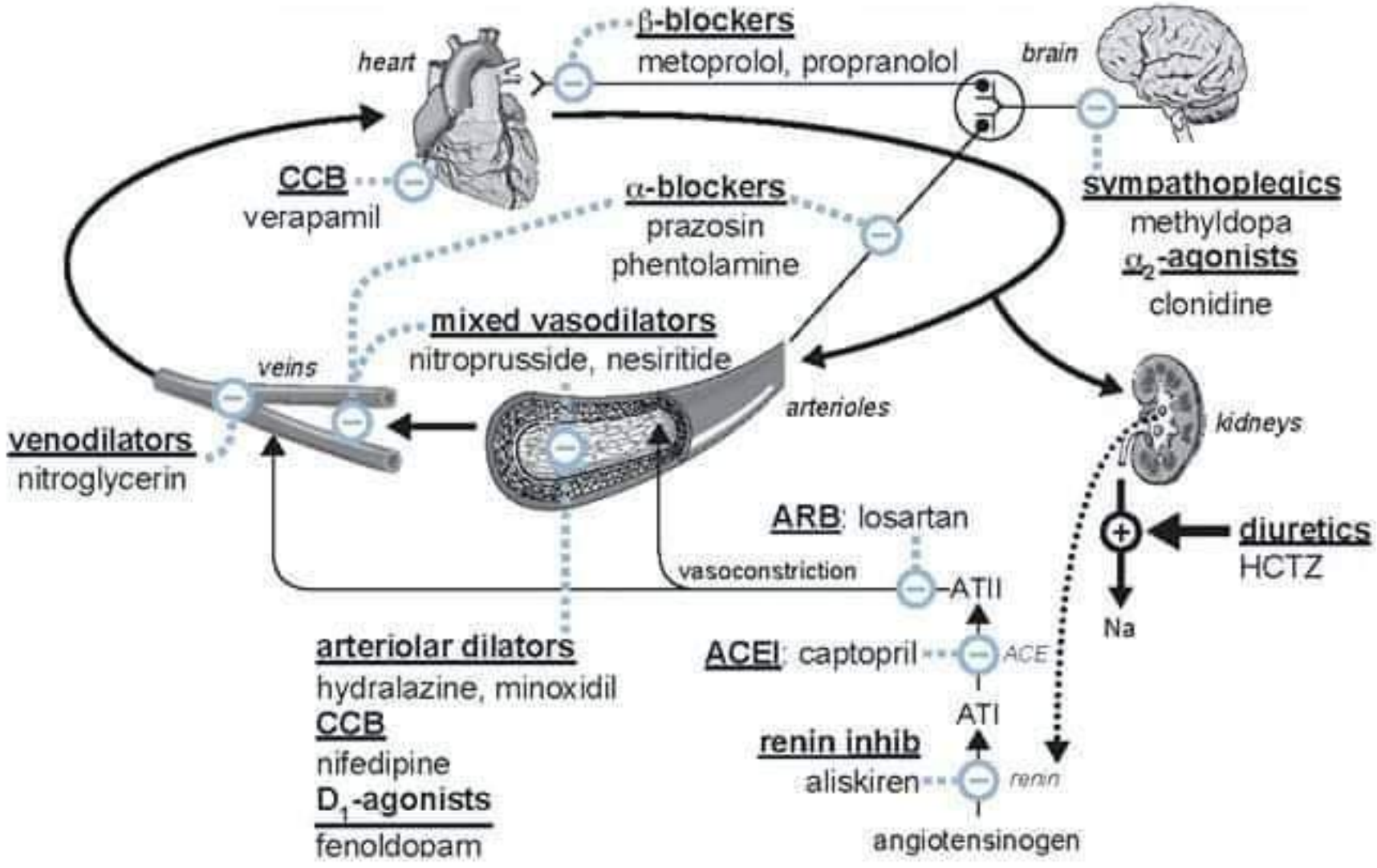
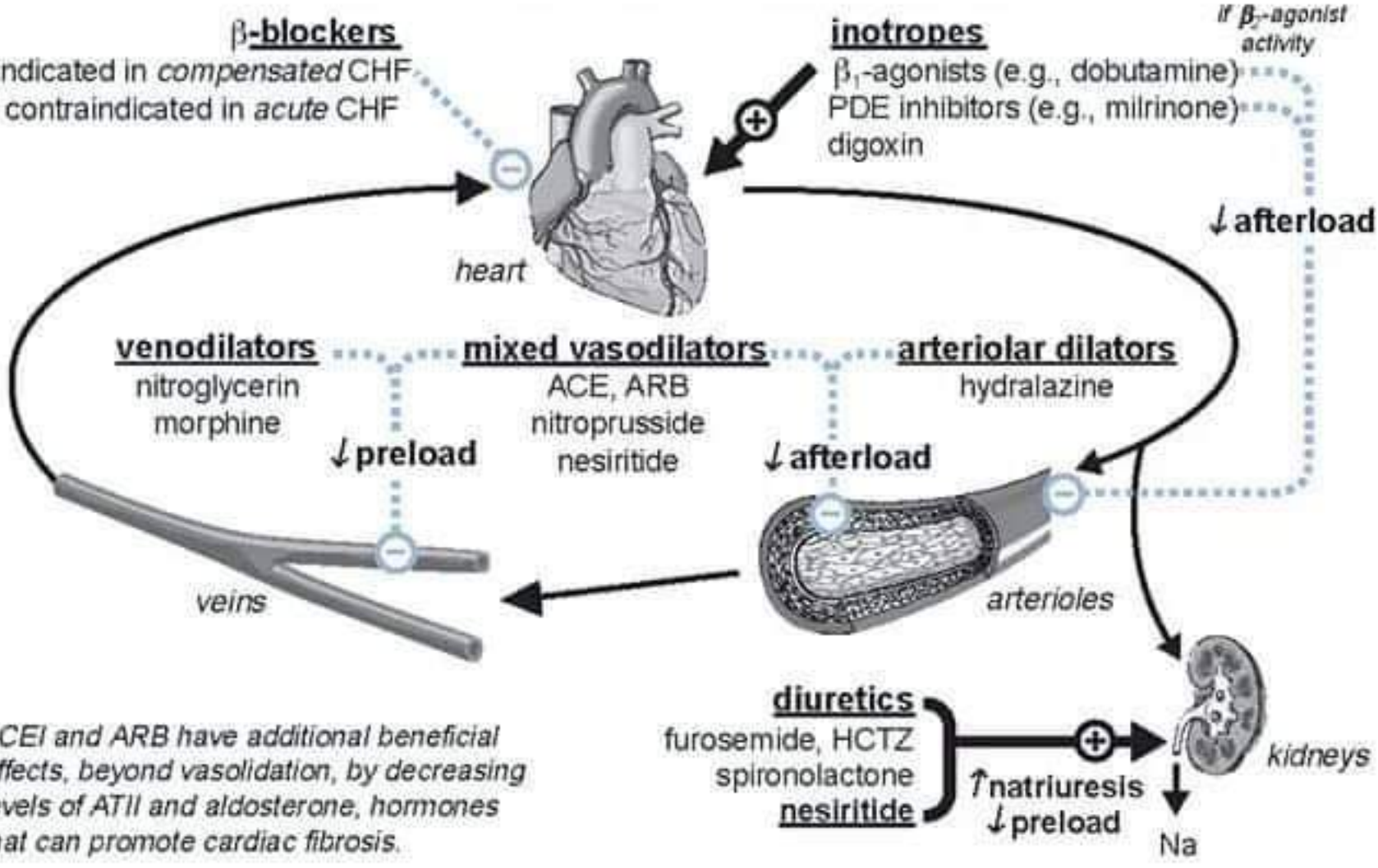
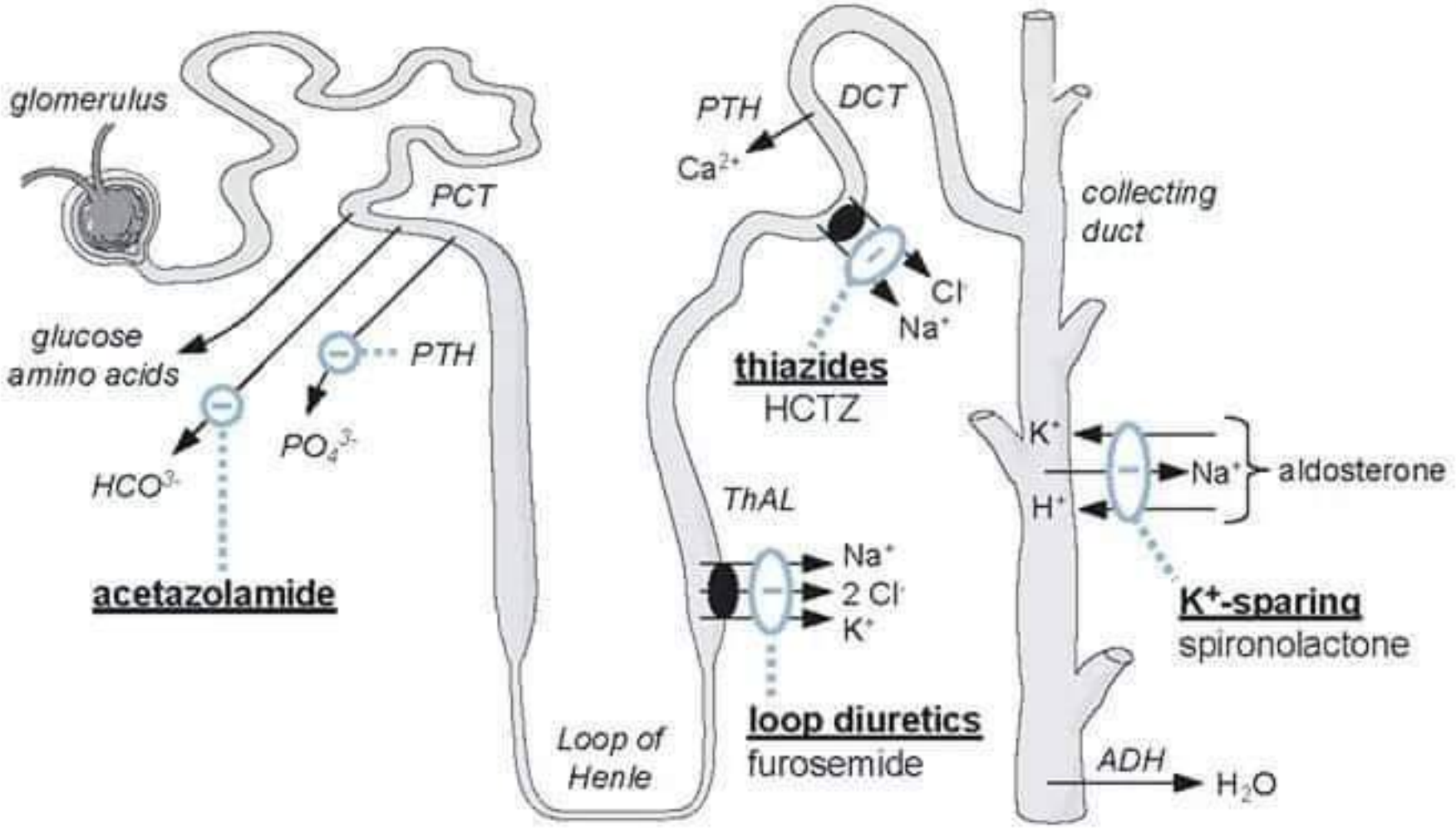
PHARMACOLOGIC TREATMENT OF HYPERTENSION



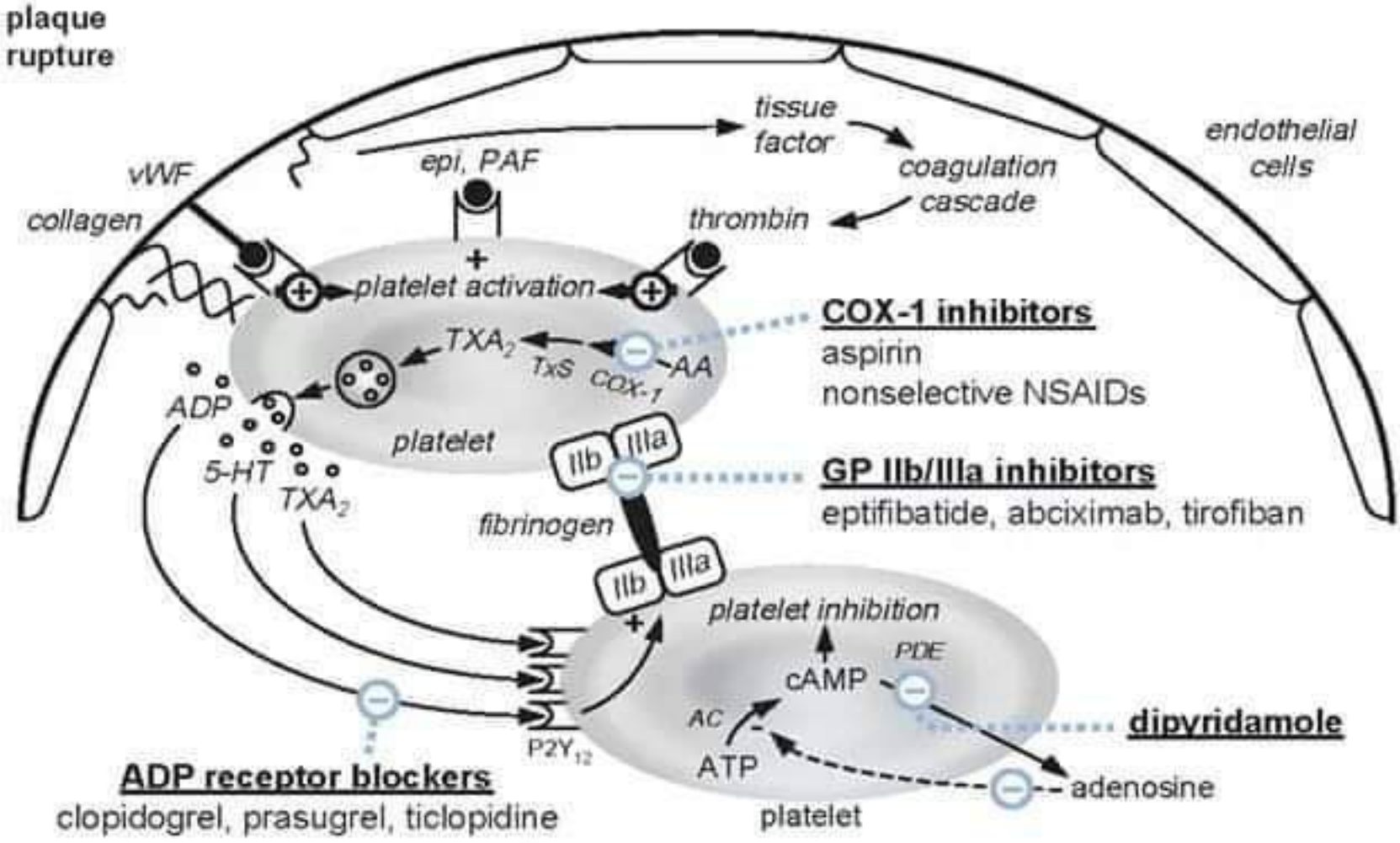
PHARMACOLOGIC TREATMENT OF HEART FAILURE



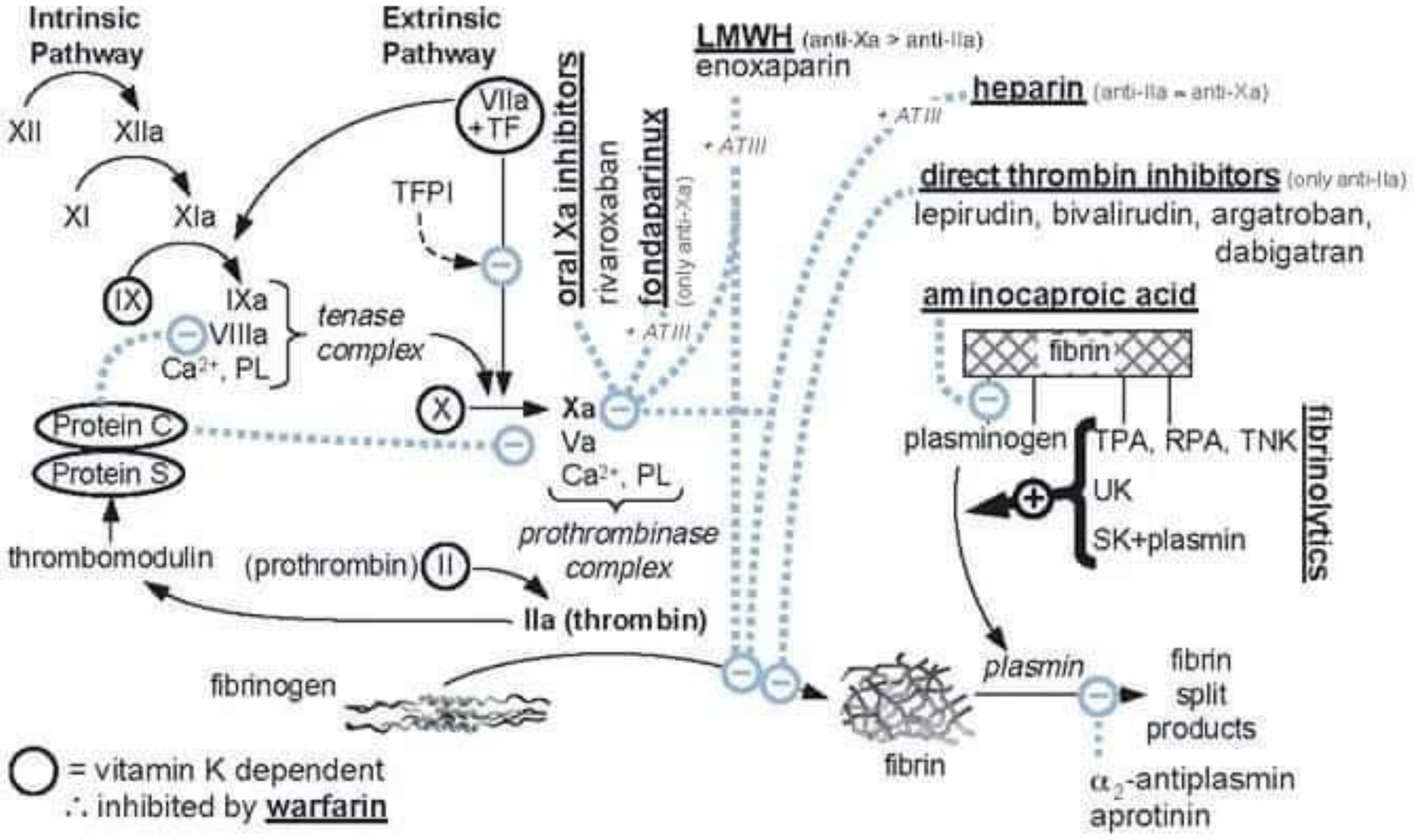
ACEI and ARB have additional beneficial effects, beyond vasolidation, by decreasing levels of ATII and aldosterone, hormones that can promote cardiac fibrosis.


glomerulus
PCT
glucose
amino acids
PTH
HCO^{3-}
PO_4^{3-}
acetazolamide
PTH
DCT
Ca^{2+}
Cl
Na^+
thiazides
HCTZ
collecting
duct
K^+
Na^+
aldosterone
H^+
ThAL
Na^+
2 Cl
K^+
K+-sparing
spironolactone
loop diuretics
furosemide
Loop of
Henle
ADH
H_2O

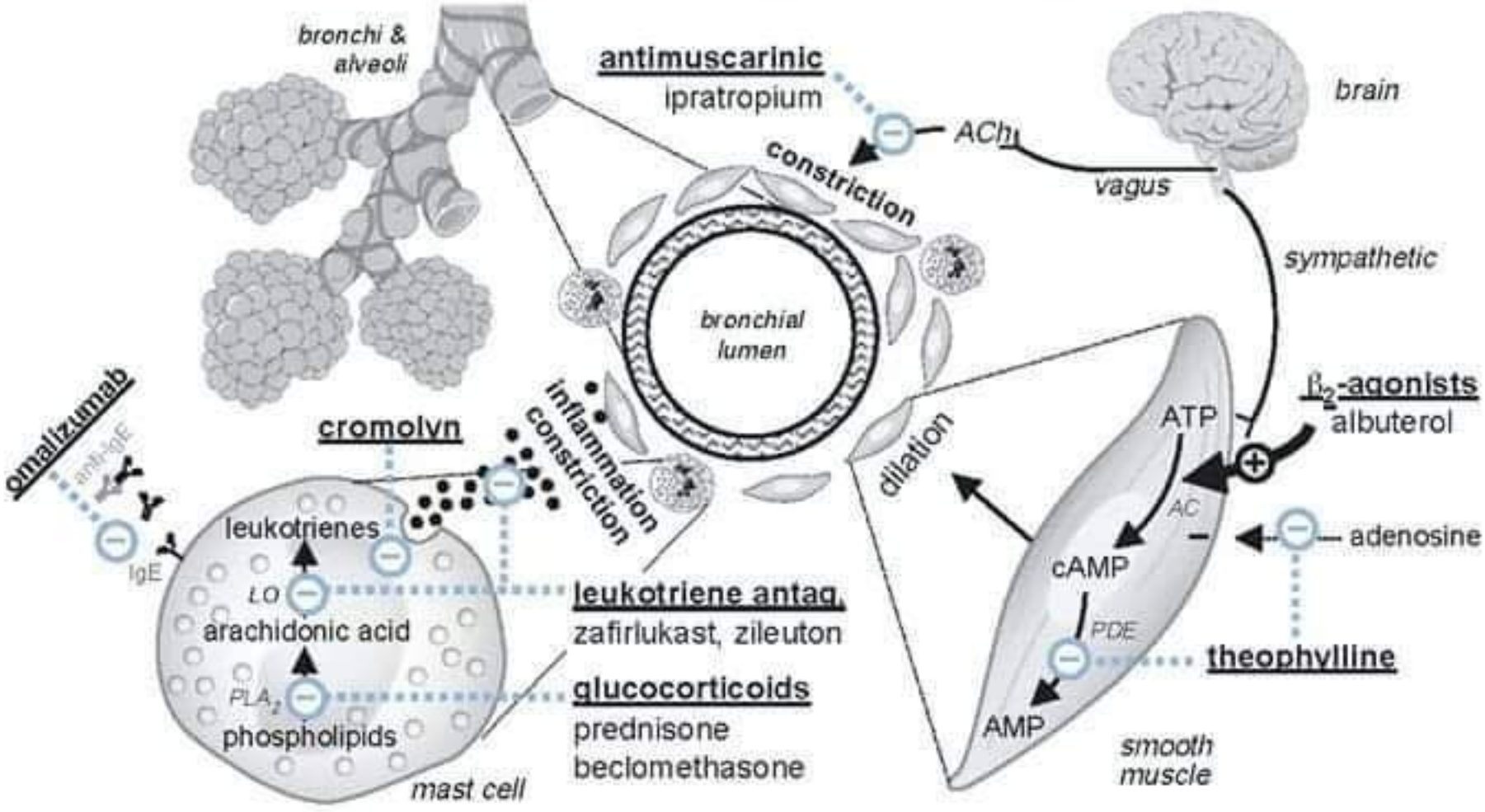
ANTIPLATELET AGENTS



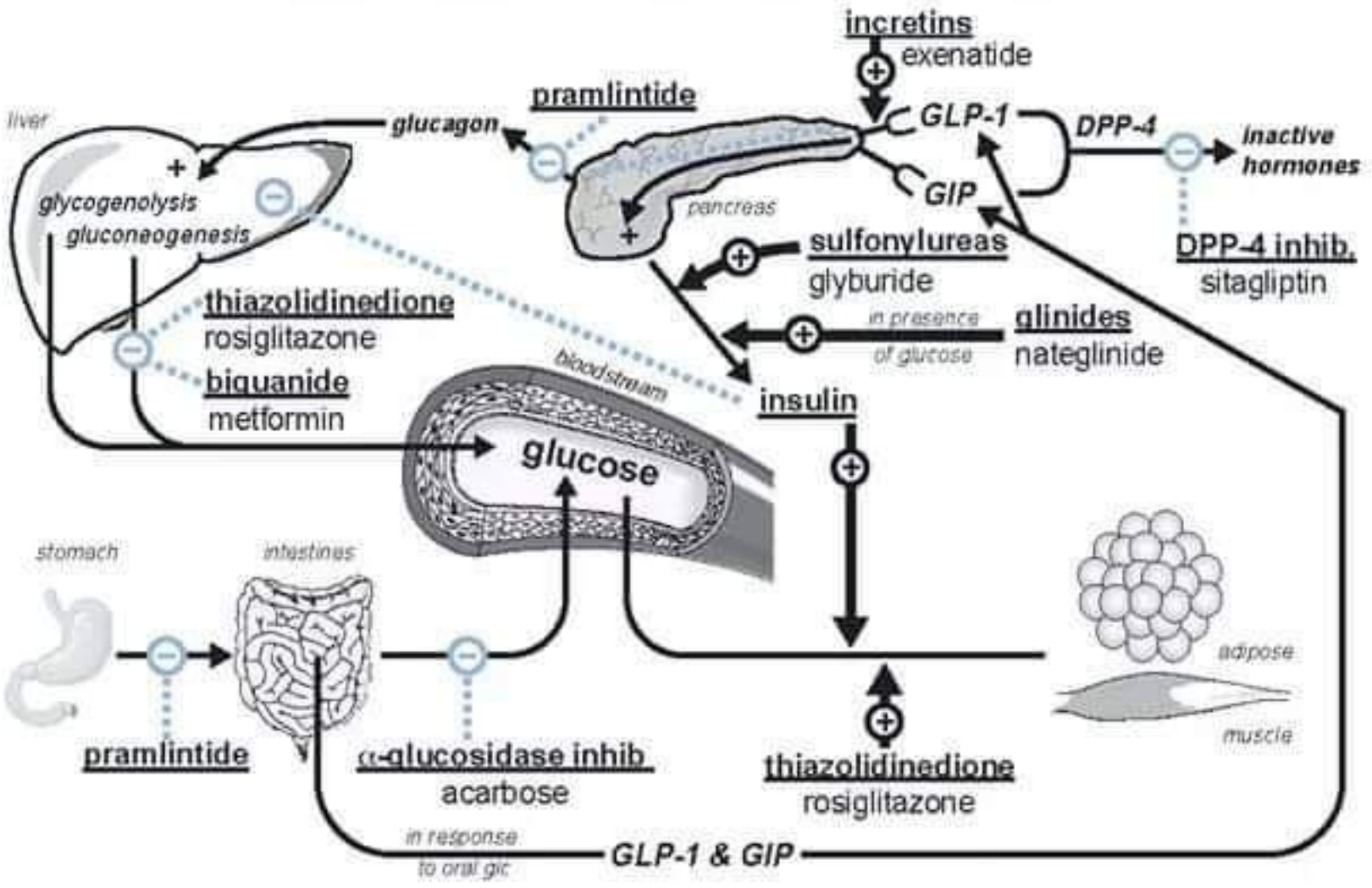
ANTICOAGULANTS, PROCOAGULANTS, FIBRINOLYTICS



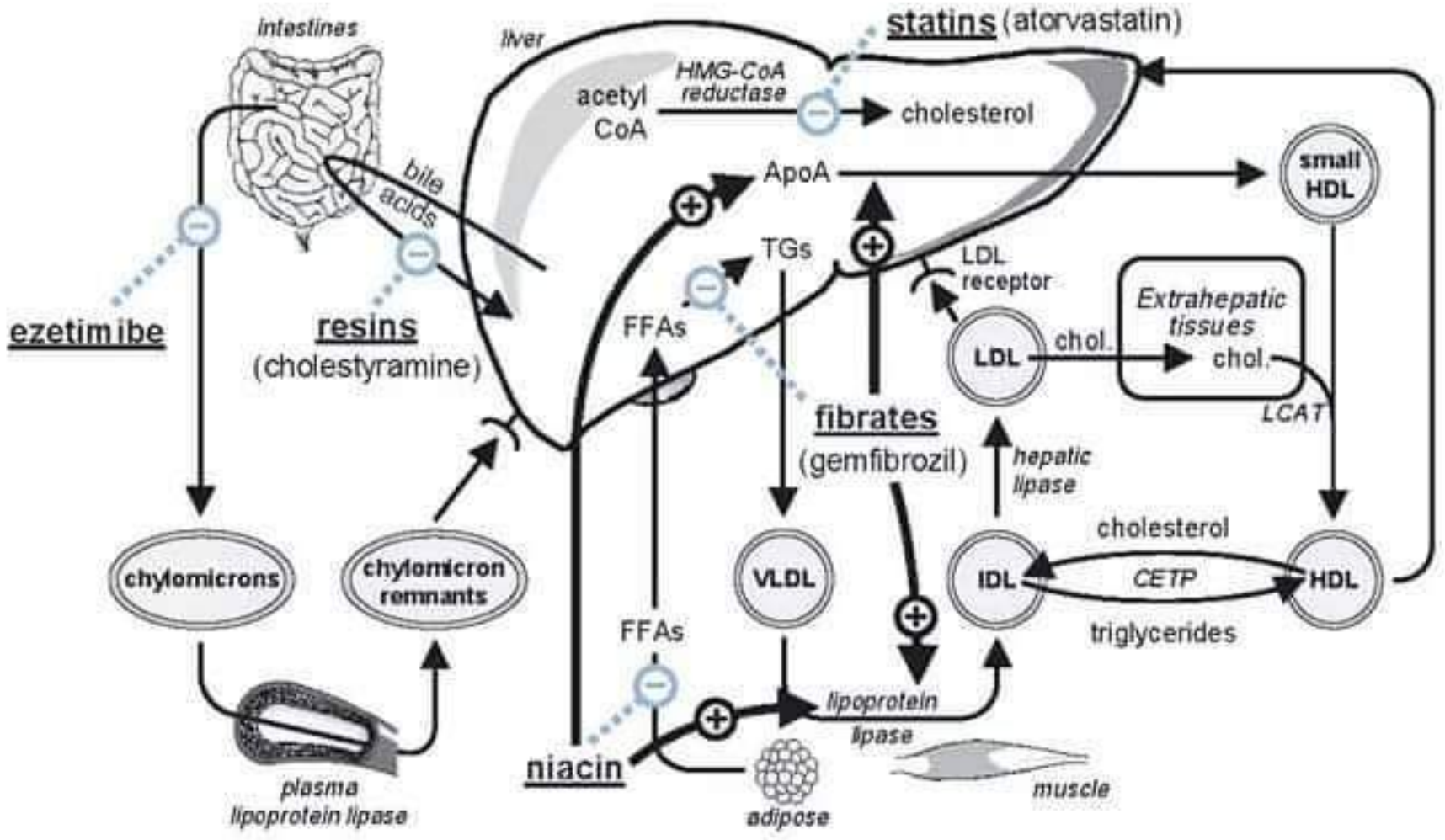
PHARMACOLOGIC TREATMENT OF ASTHMA

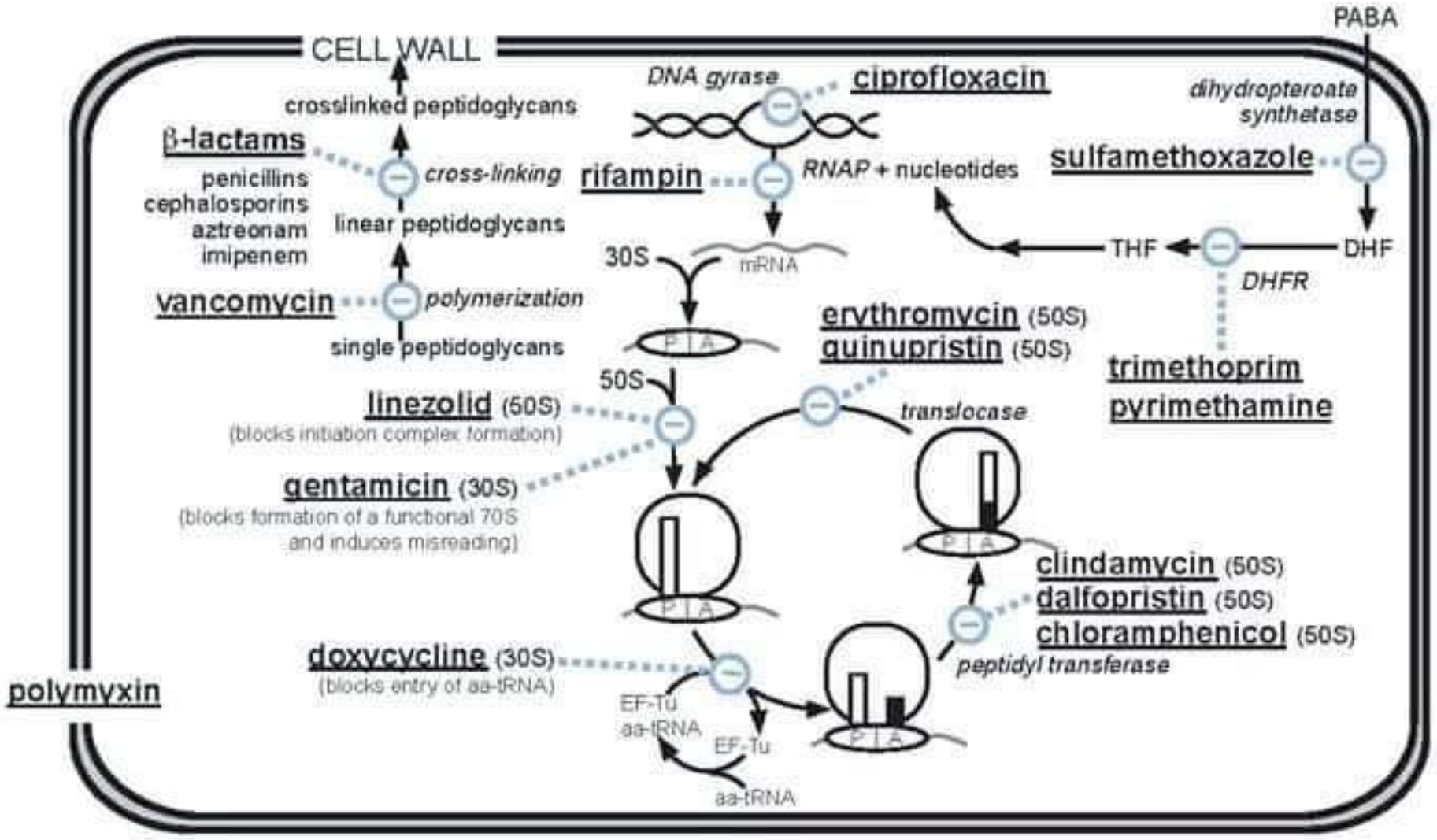


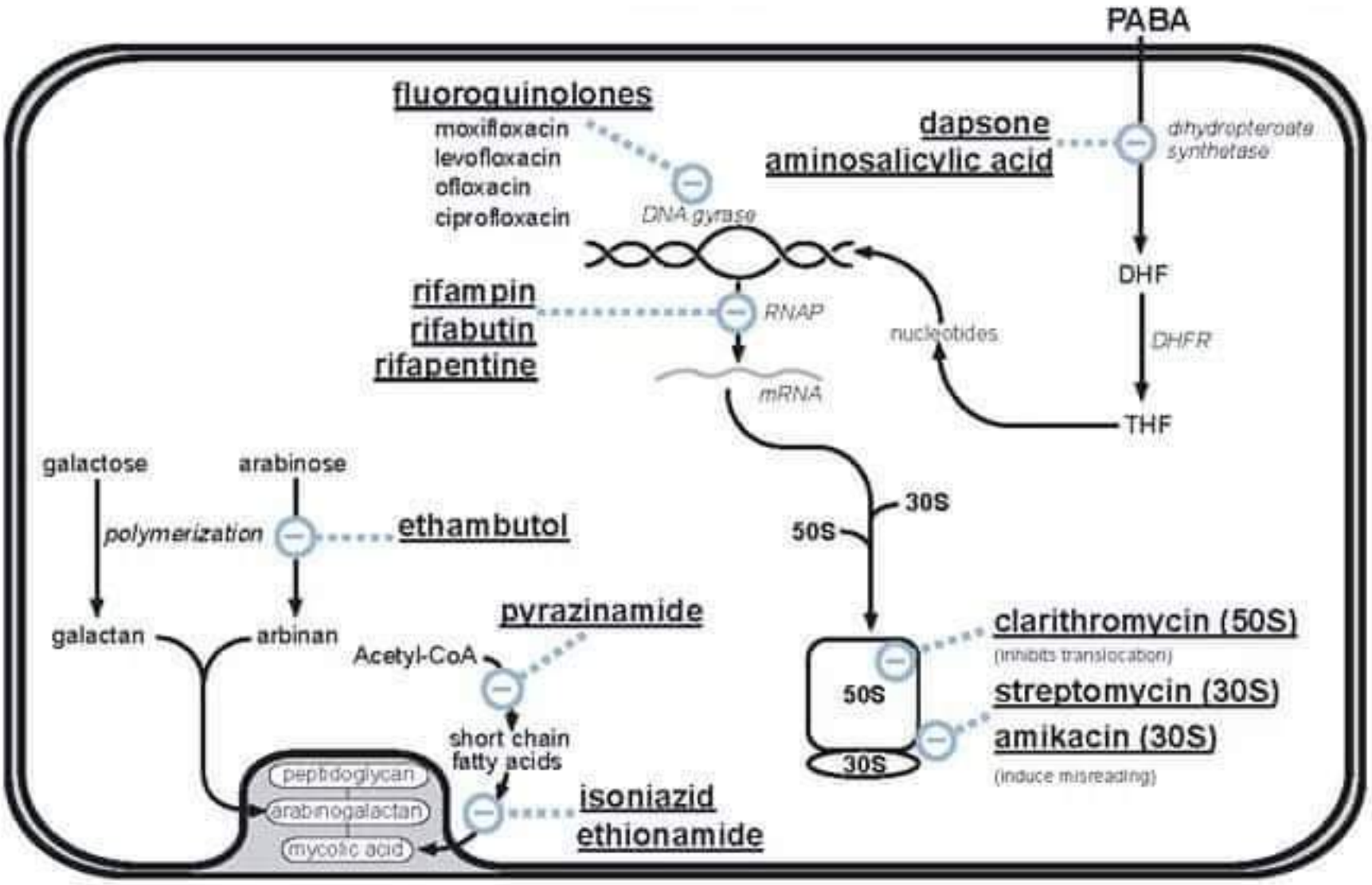
PHARMACOLOGIC TREATMENT OF DIABETES



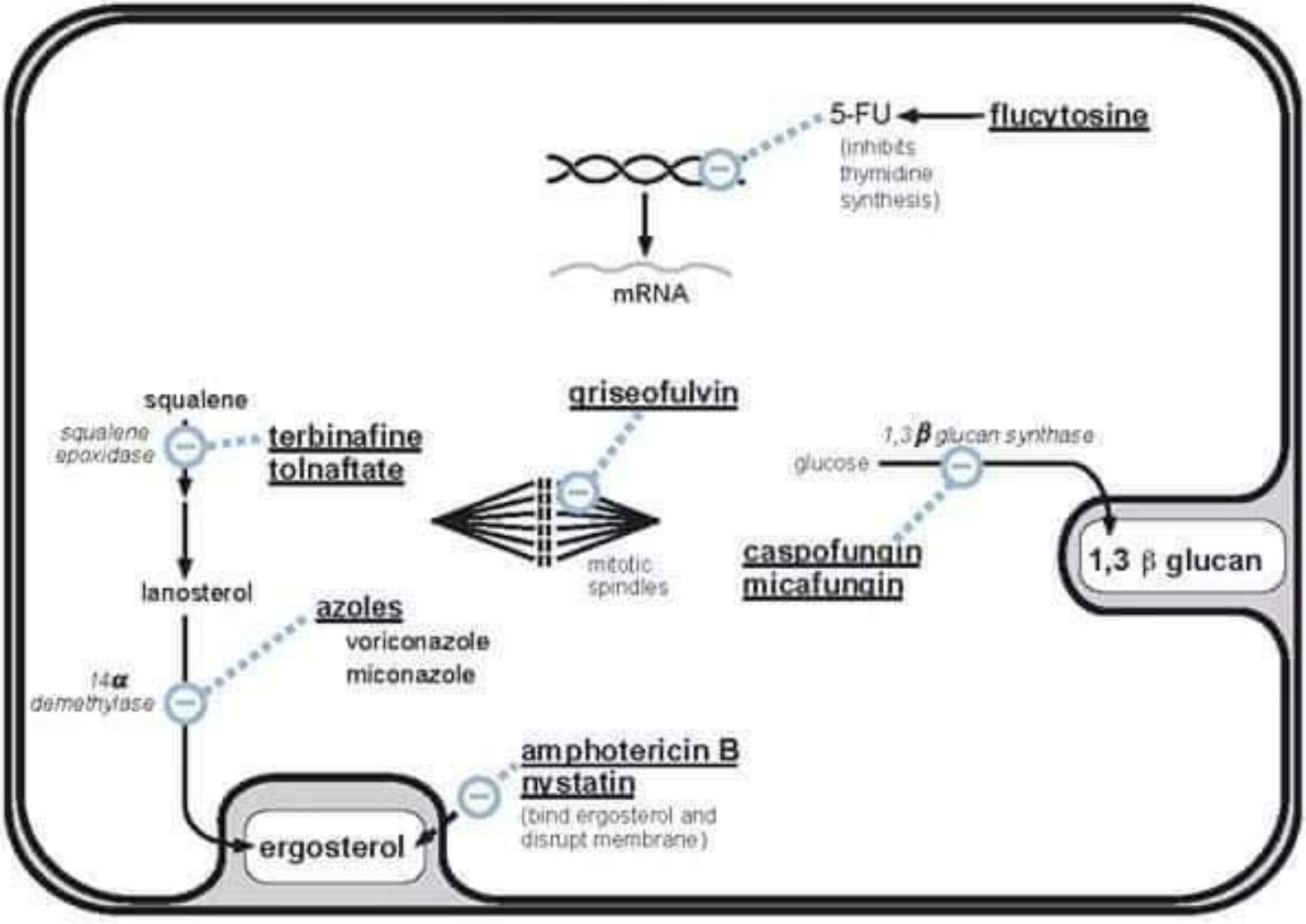
PHARMACOLOGIC TREATMENT OF DYSLIPIDEMIA



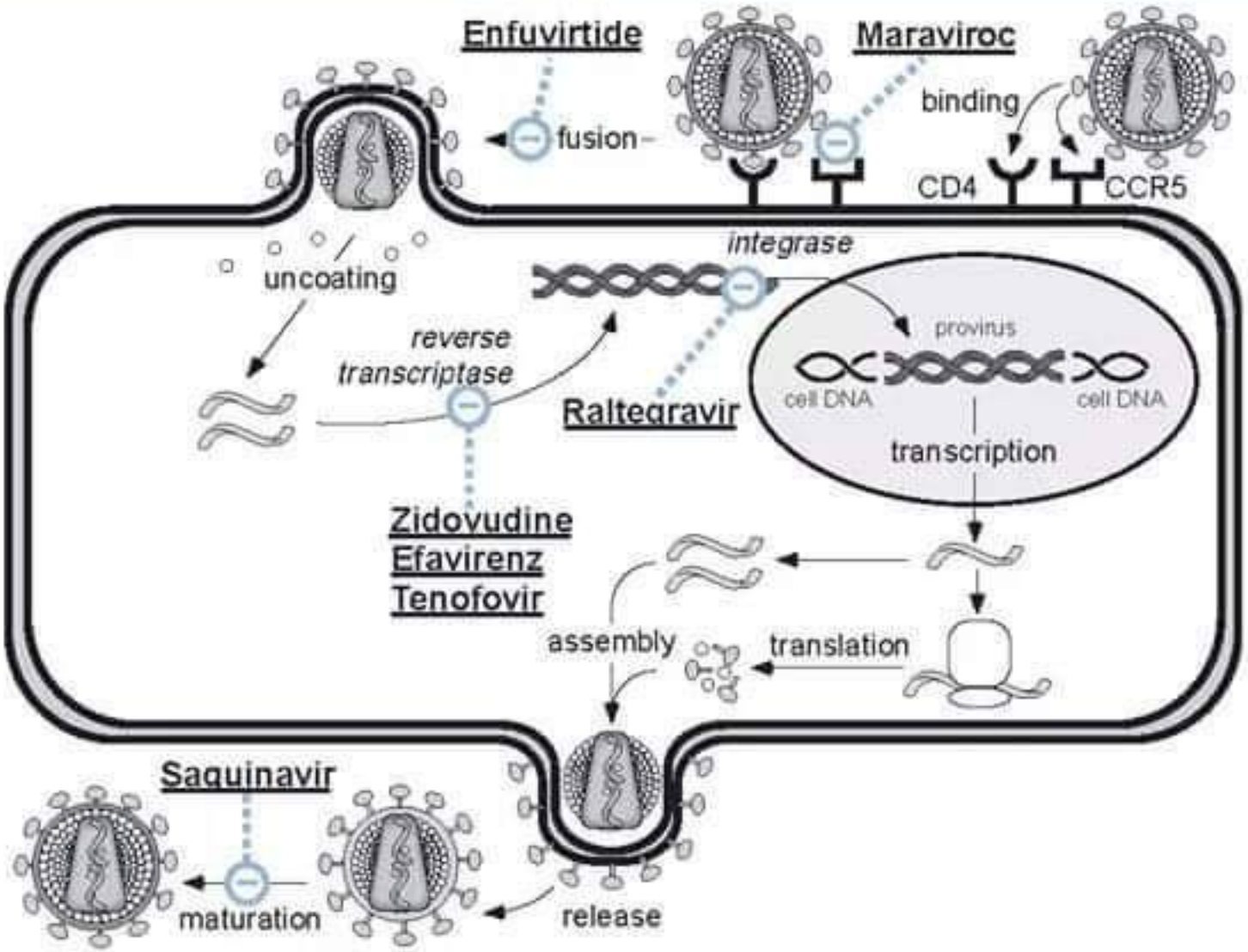

CELL WALL
crosslinked peptidoglycans
β-lactams
penicillins
cephalosporins
aztreonam
imipenem
cross-linking
linear peptidoglycans
vancomycin
polymerization
single peptidoglycans
DNA gyrase
ciprofloxacin
rifampin
RNAP + nucleotides
30S
mRNA
P A
50S
linezolid (50S)
(blocks initiation complex formation)
gentamicin (30S)
(blocks formation of a functional 70S and induces misreading)
doxycycline (30S)
(blocks entry of aa-tRNA)
EF-Tu
aa-tRNA
EF-Tu
aa-tRNA
polymyxin
PABA
dihydropteroate synthetase
sulfamethoxazole
THF
DHF
DHFR
trimethoprim
pyrimethamine
erythromycin (50S)
quinupristin (50S)
translocase
clindamycin (50S)
dalfopristin (50S)
chloramphenicol (50S)
peptidyl transferase


PABA
fluoroquinolones
moxifloxacin
levofloxacin
ofloxacin
ciprofloxacin
DNA gyrase
dapsone
aminosalicylic acid
dihydropteroate synthetase
DHF
DHFR
THF
nucleotides
rifampin
rifabutin
rifapentine
RNAP
mRNA
30S
50S
galactose
arabinose
polymerization
ethambutol
galactan
arbinan
pyrazinamide
Acetyl-CoA
short chain fatty acids
peptidoglycan
arabinogalactan
mycolic acid
isoniazid
ethionamide
50S
30S
clarithromycin (50S)
(inhibits translocation)
streptomycin (30S)
amikacin (30S)
(induce misreading)

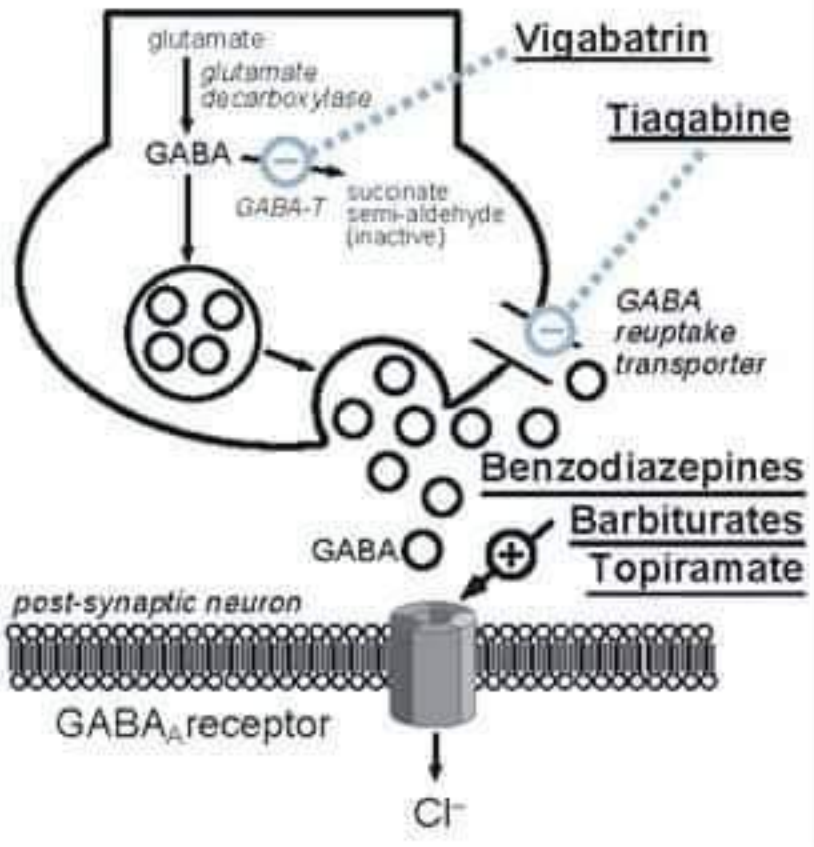
ANTIFUNGAL AGENTS



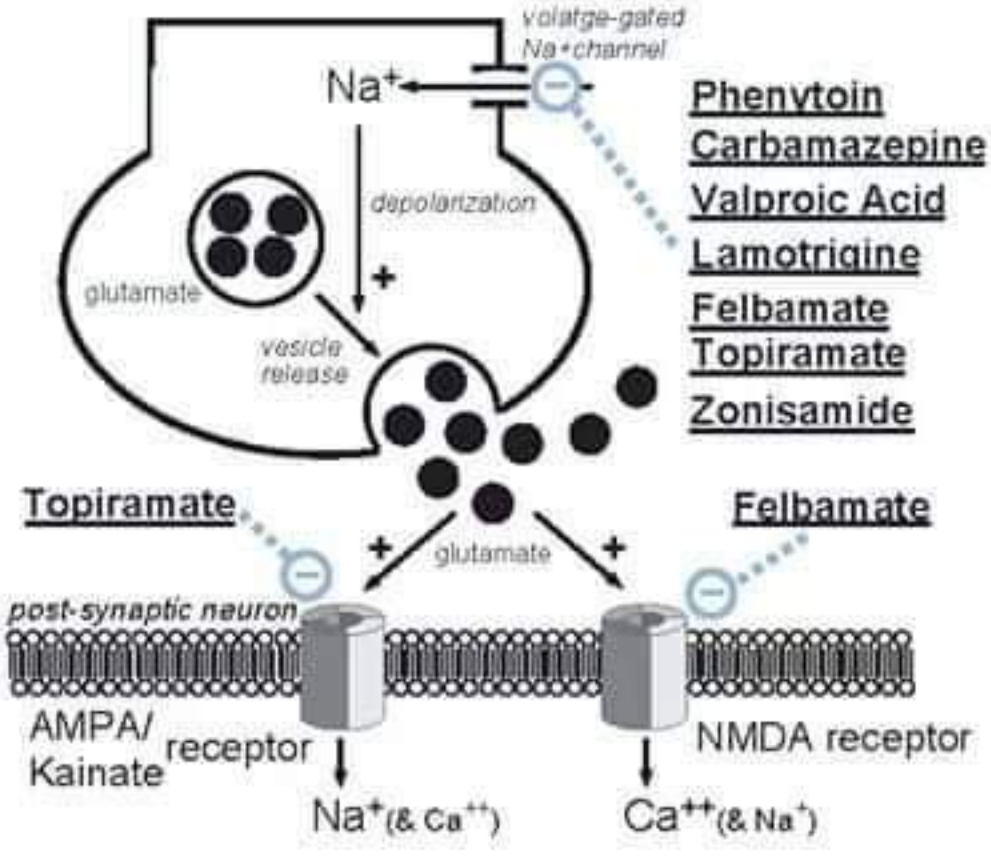
ANTIRETROVIRAL AGENTS



Inhibitory neuronal projection

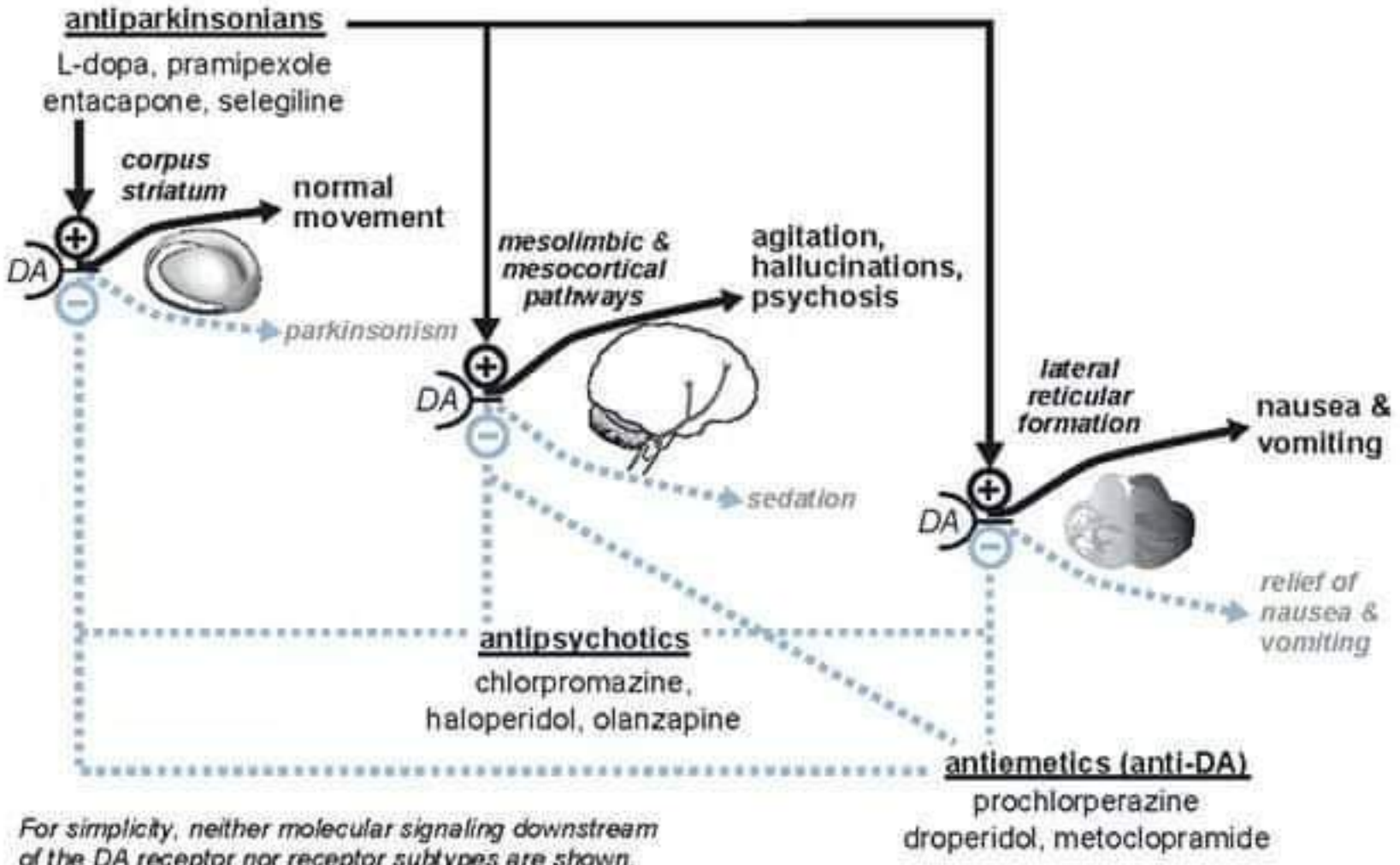


Excitatory neuronal projection



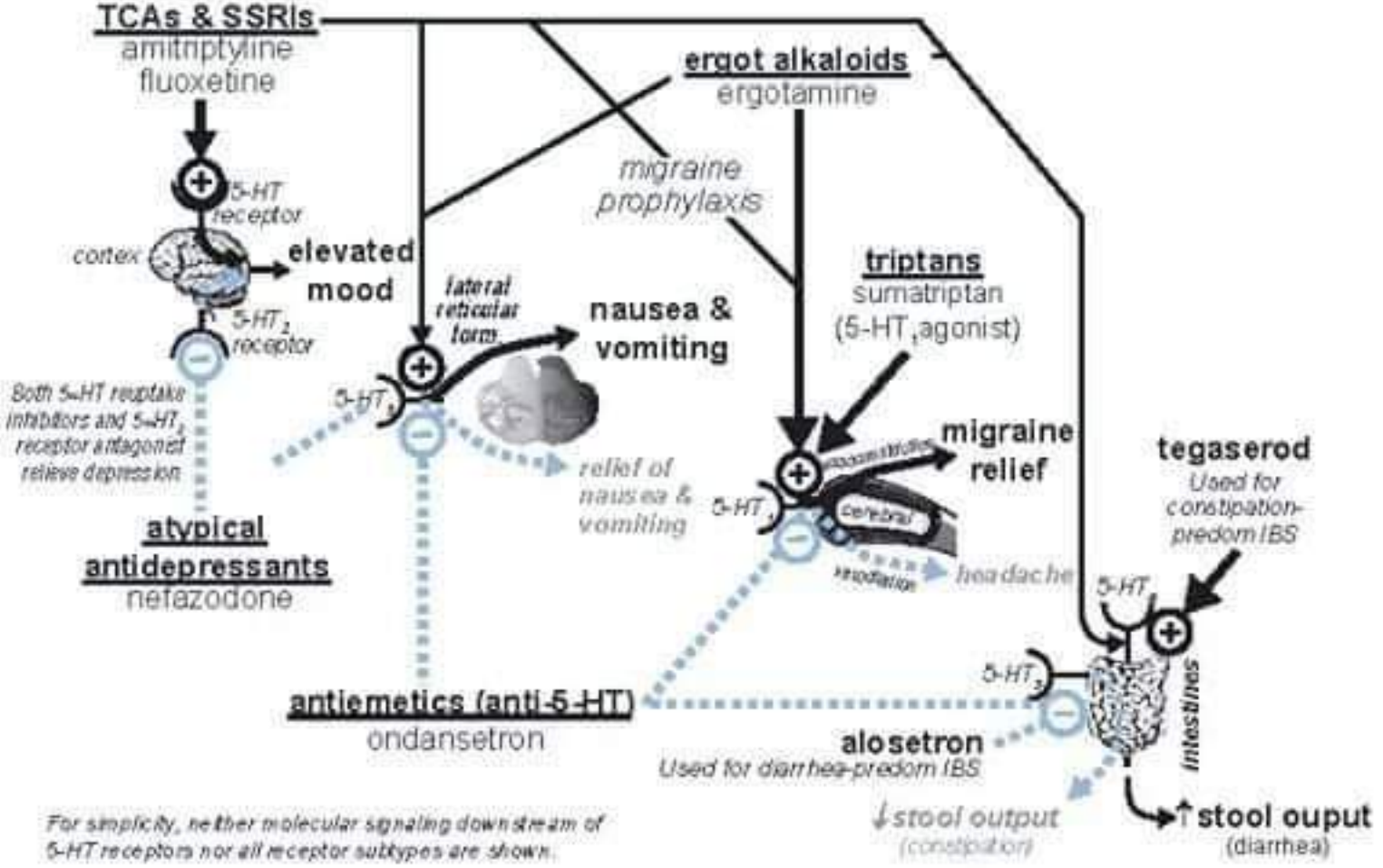
Adapted from Rho JM, Sankar R. The Pharmacologic basis of antiepileptic drug action. *Epilepsia* 40(11):1471–1483, 1999.

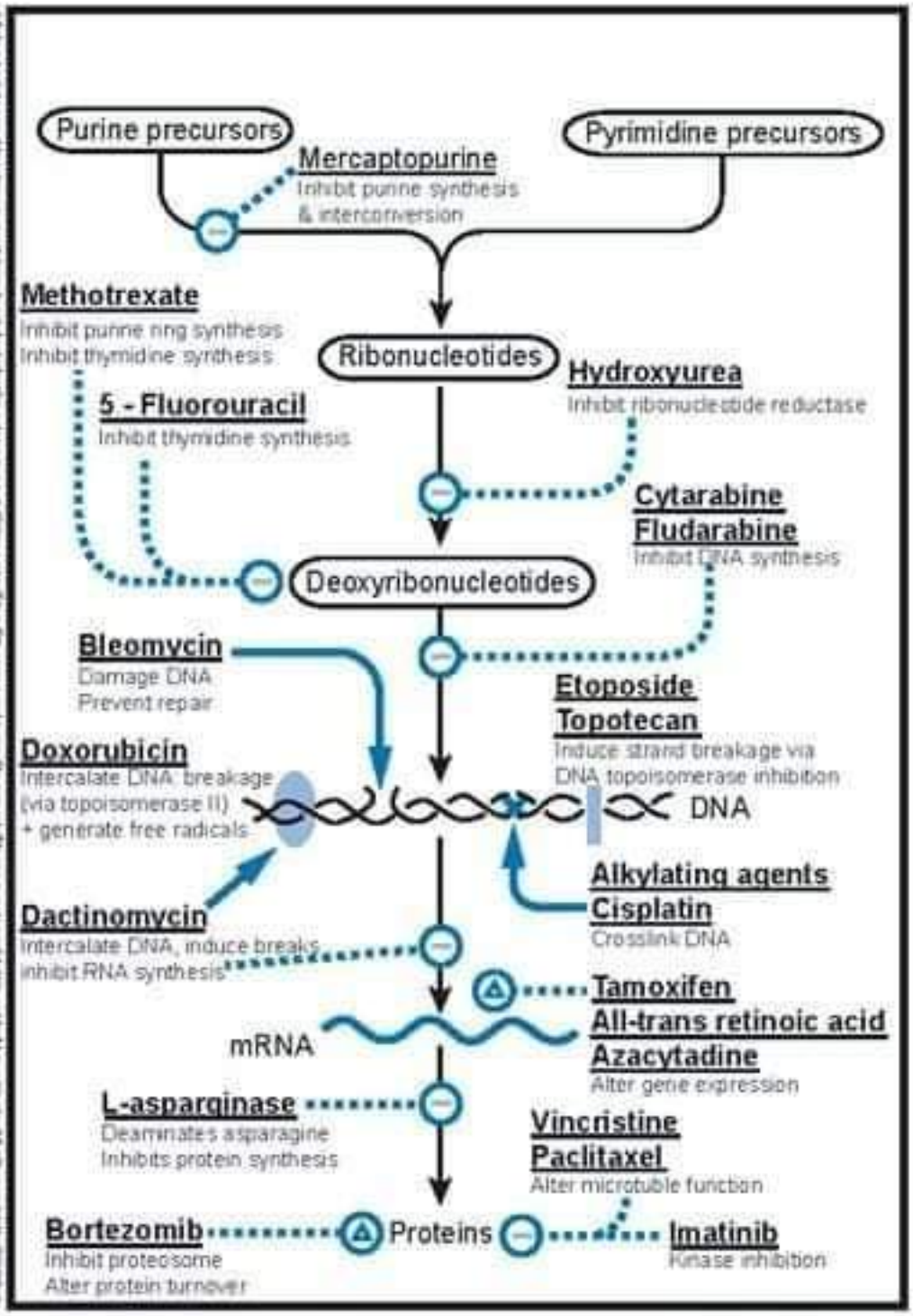
DOPAMINE AGONISM & ANTAGONISM IN CNS



For simplicity, neither molecular signaling downstream of the DA receptor nor receptor subtypes are shown.

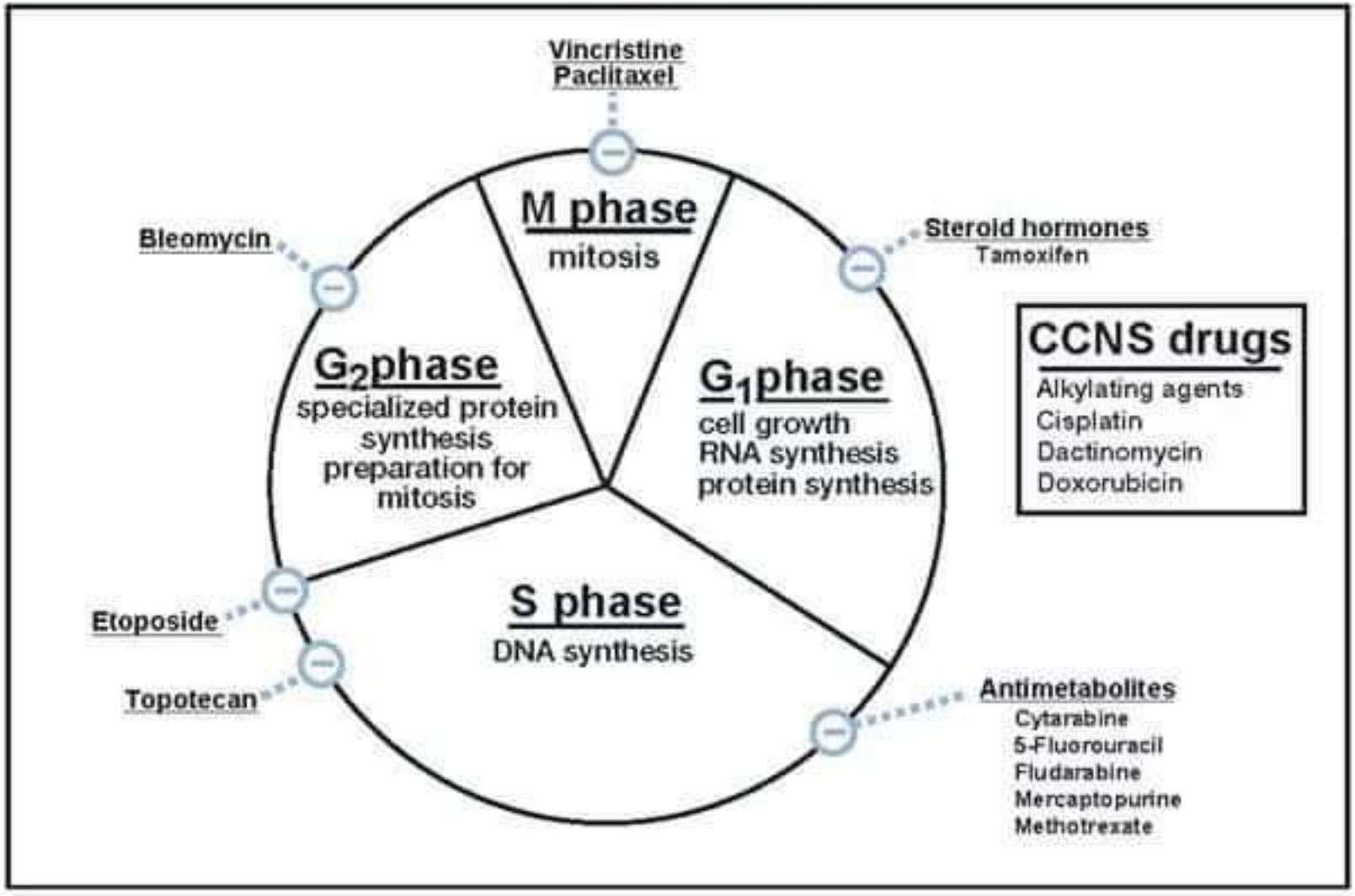
SEROTONIN AGONISM & ANTAGONISM



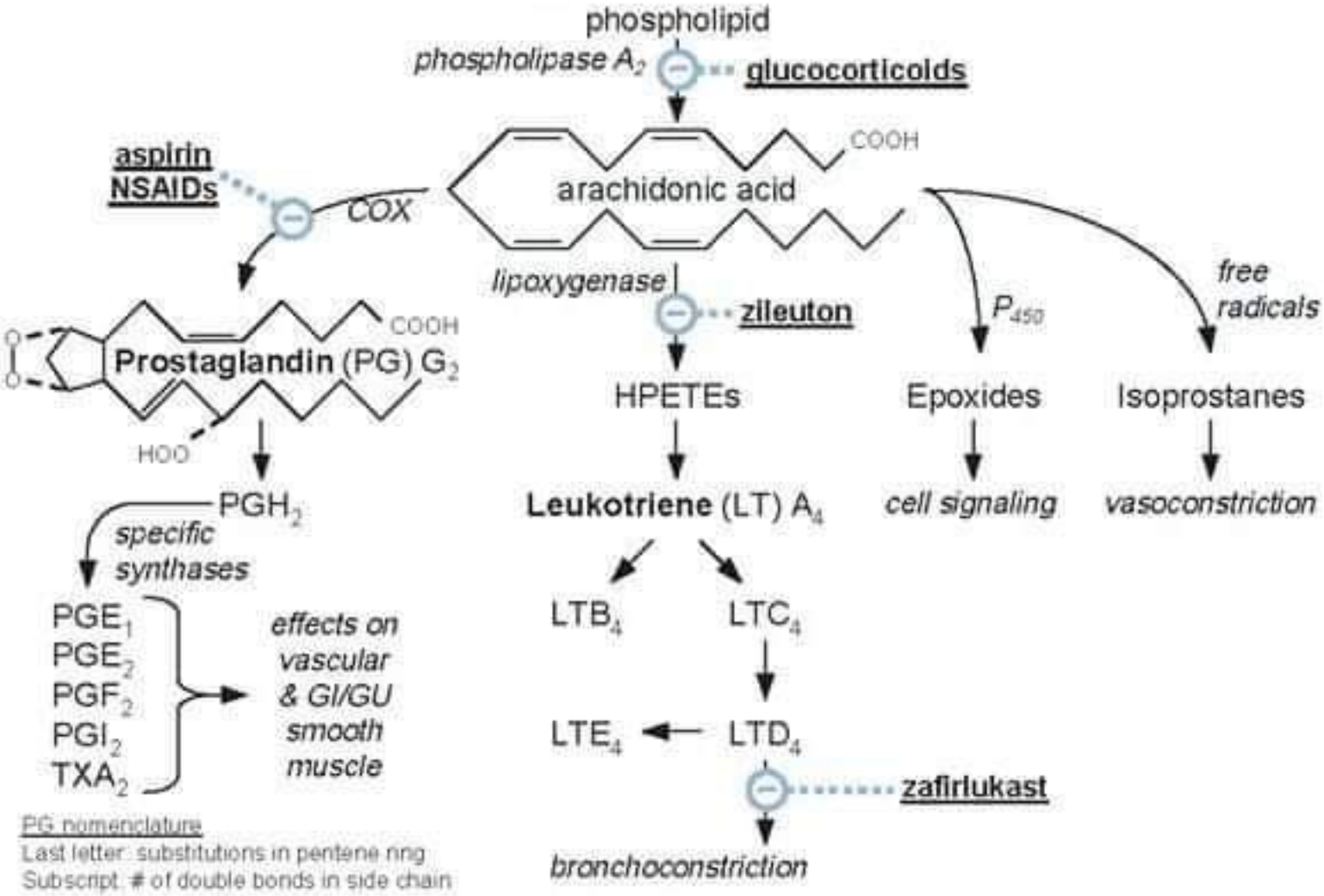


(Adapted from Hardman and Limbird [eds]. Goodman and Gilman's The Pharmacologic Basis of Therapeutics [11th ed]. New York: McGraw-Hill, 2006.)

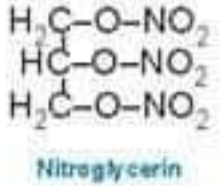
ANTINEOPLASTICS

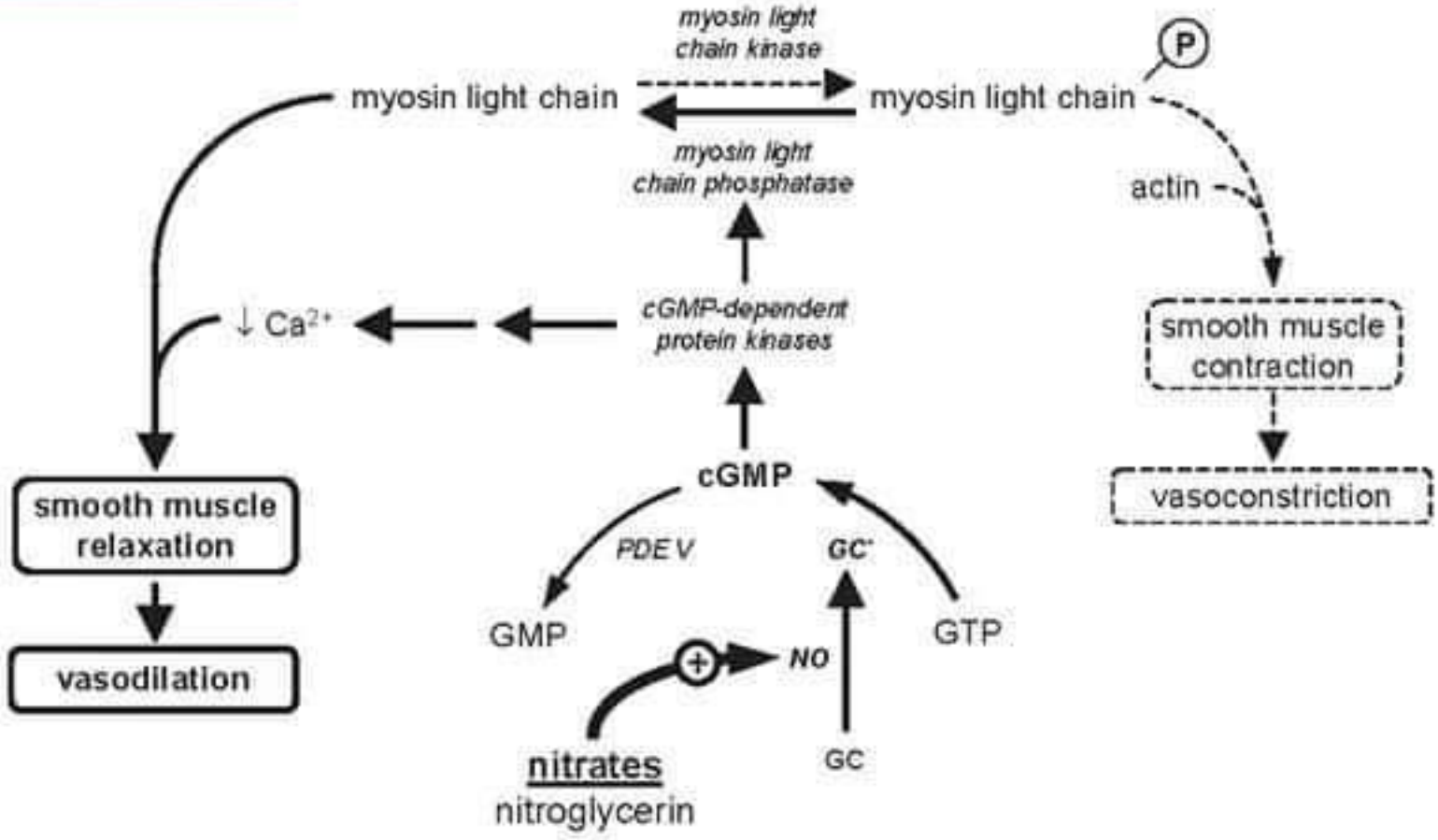


EICOSANOIDS

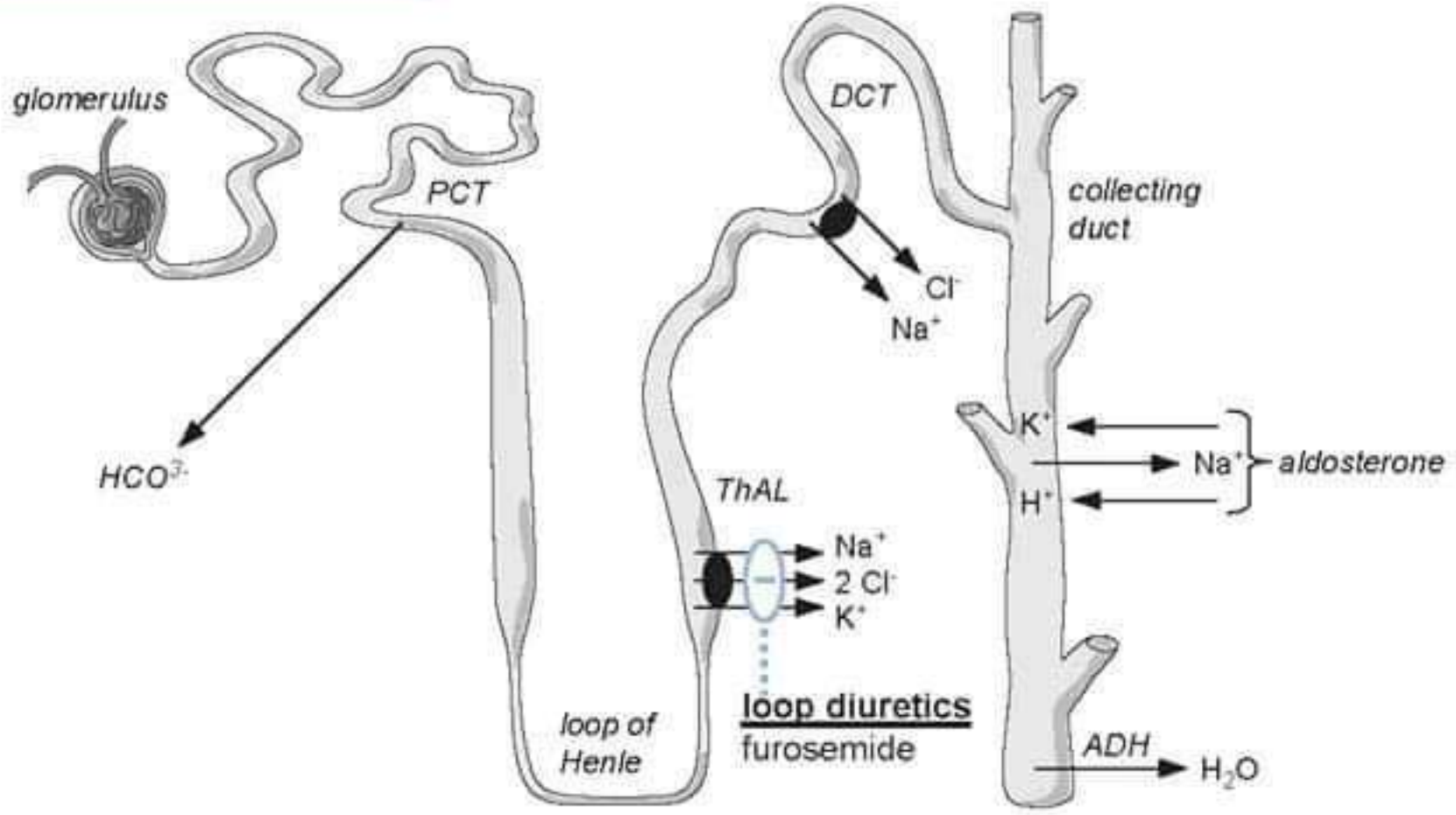


NITROGLYCERIN
Isosorbide Dinitrate
Isosorbide Mononitrate





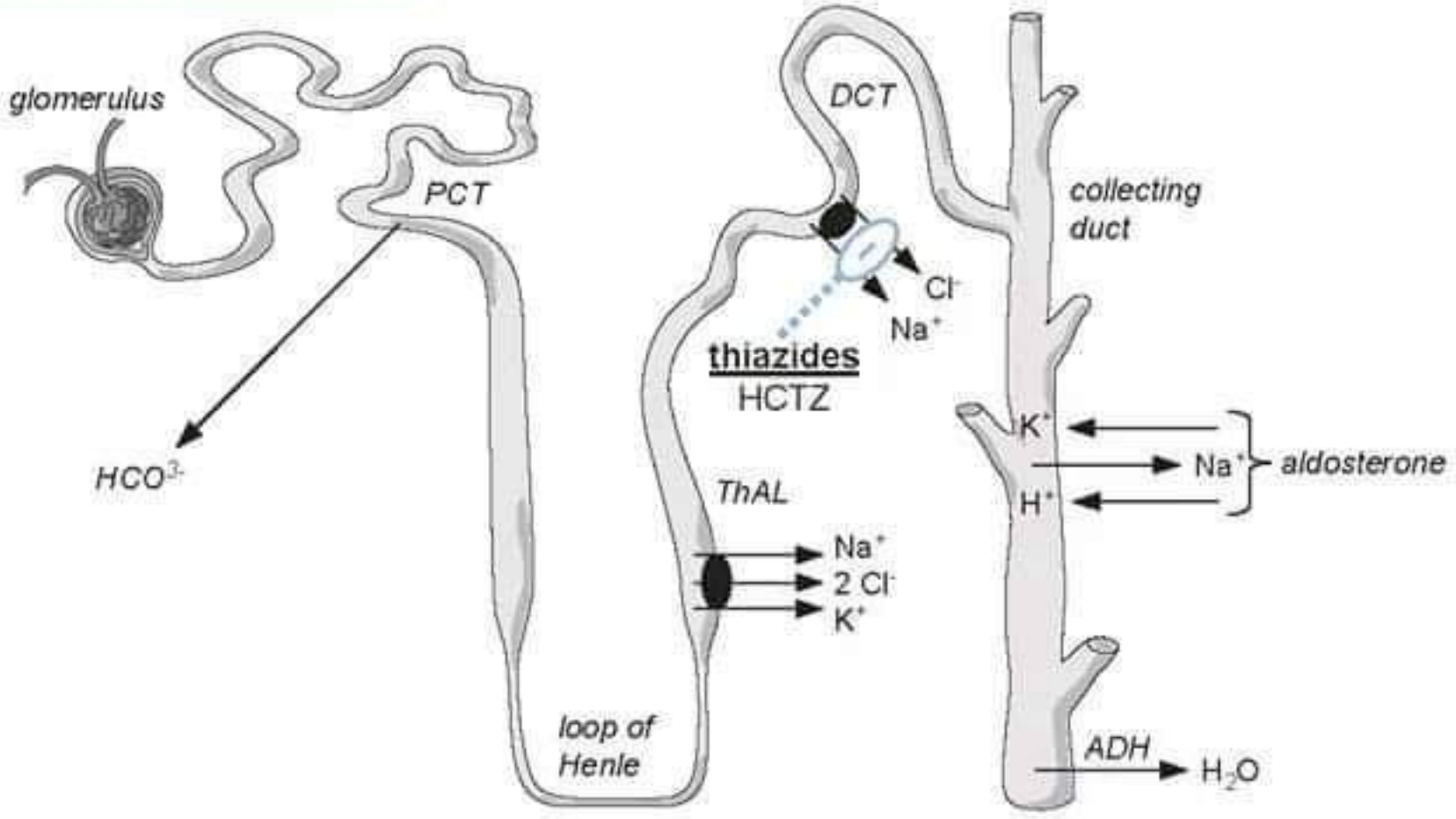
FUROSEMIDE
Bumetanide **Ethacrynic Acid**
Torsemide



CV

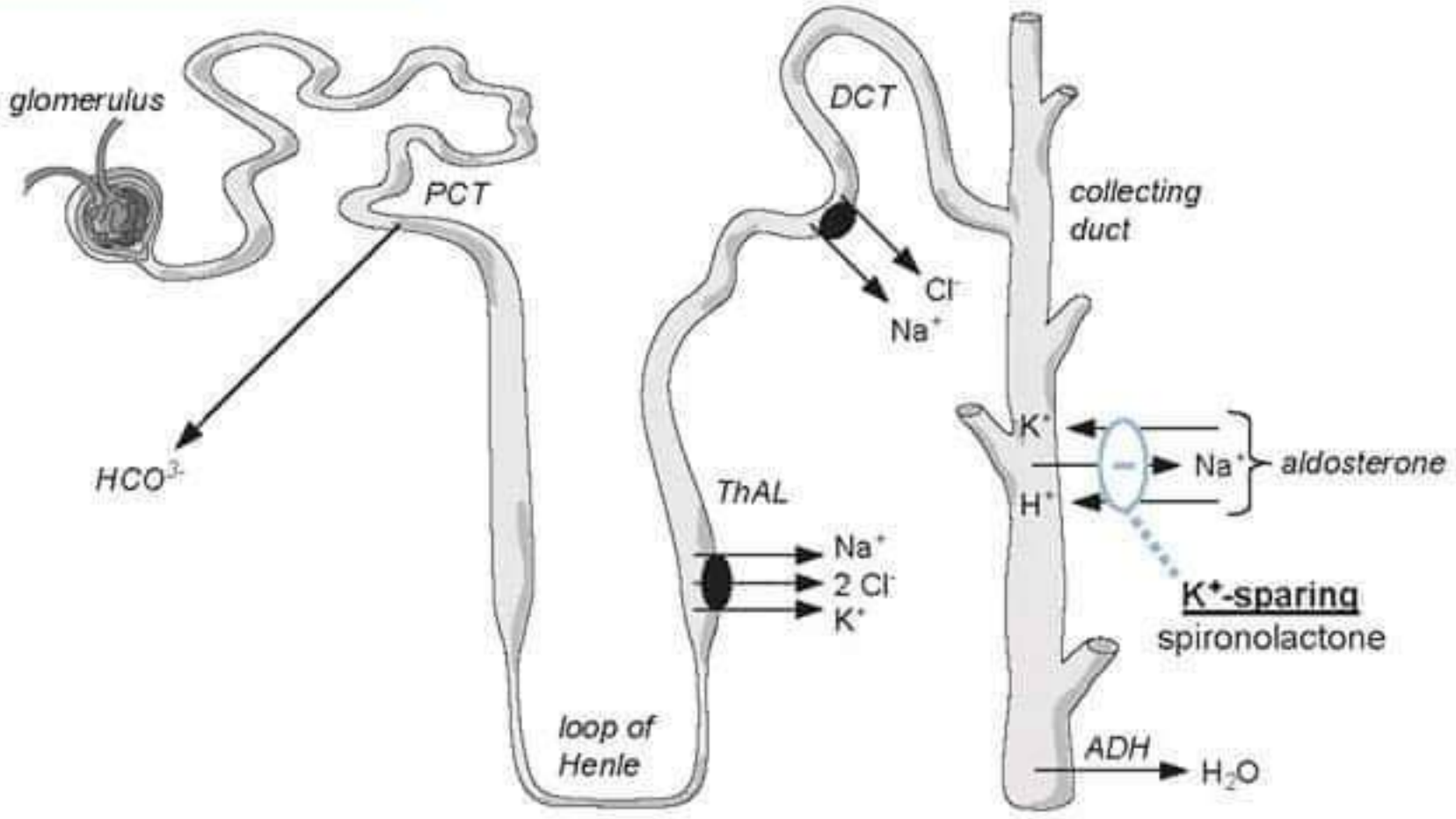
HYDROCHLOROTHIAZIDE

Chlorothiazide	Indapamide
Chlorthalidone	Metolazone



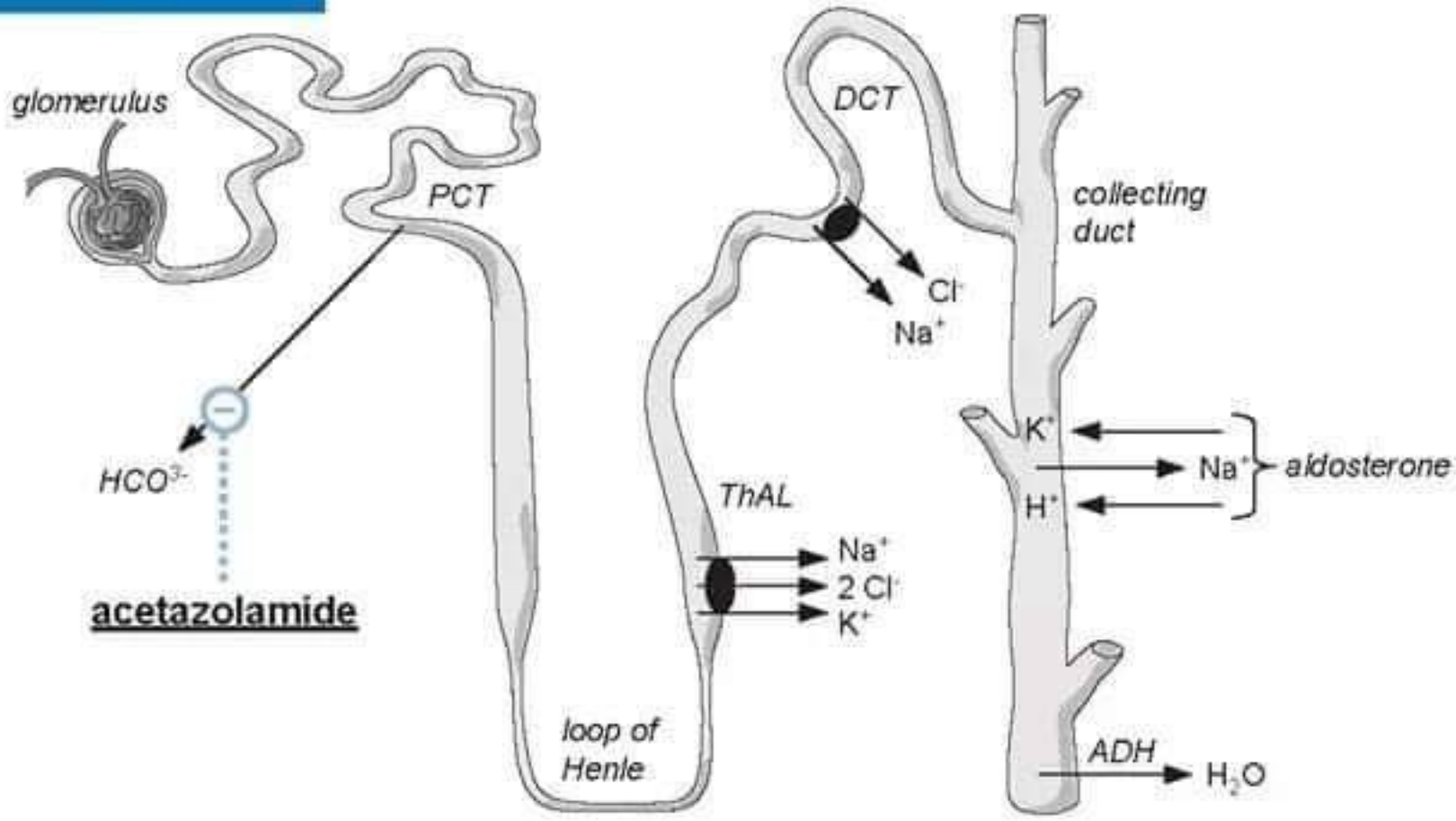
CV

SPIRONOLACTONE
Triamterene **Amiloride**
Eplerenone



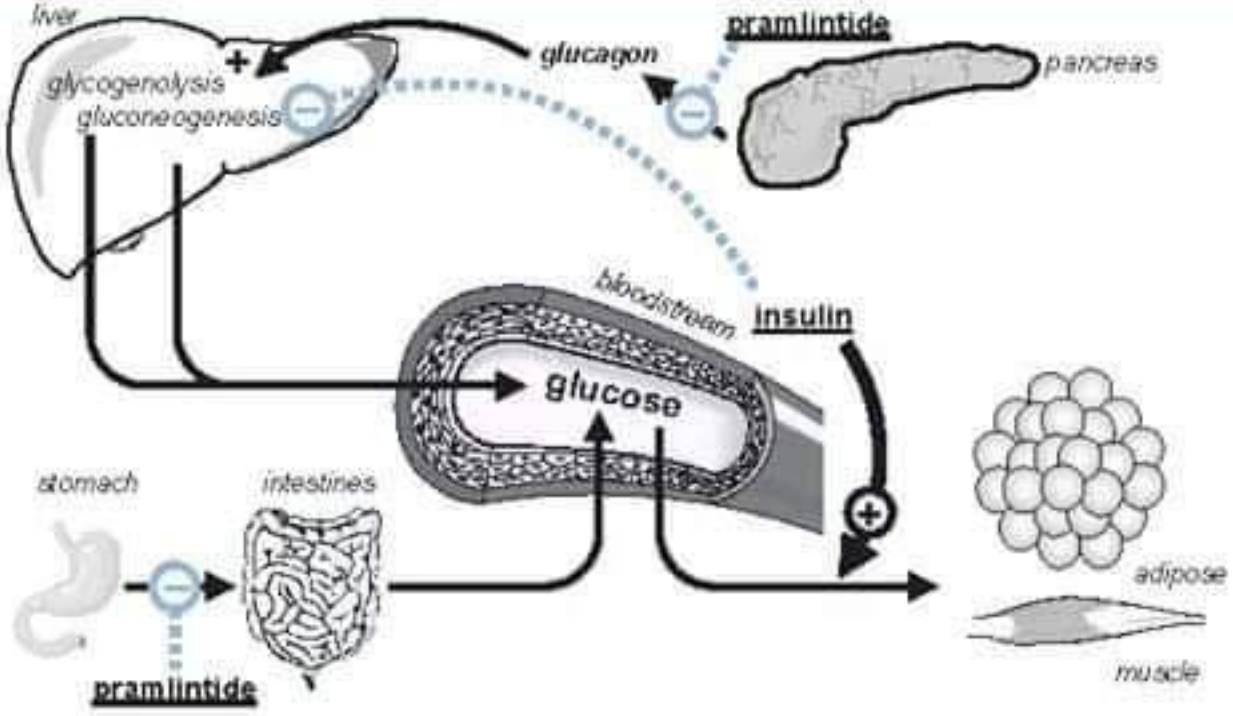
CV

ACETAZOLAMIDE
Methazolamide
Brinzolamide
Dorzolamide



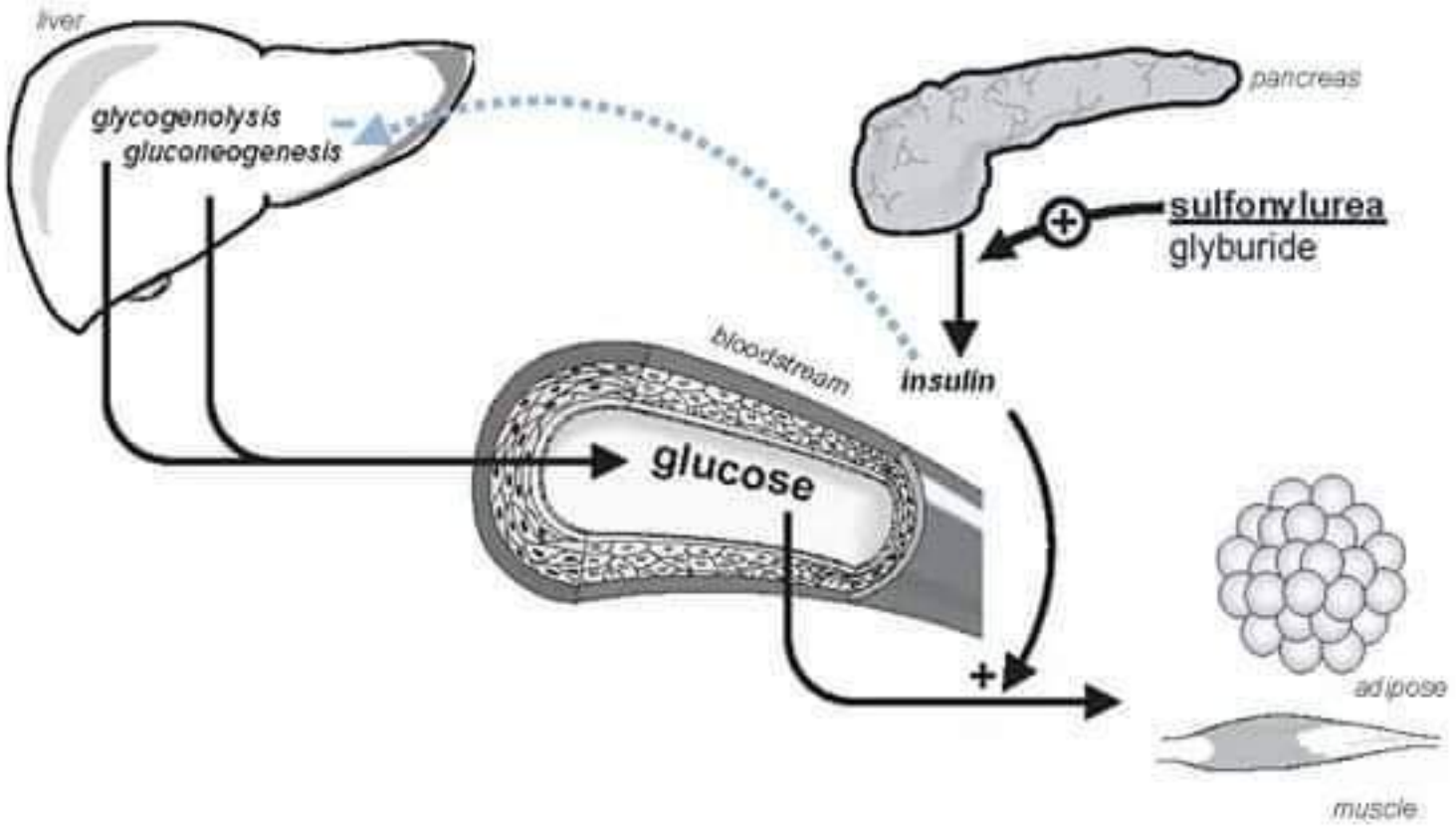
INSULIN
Pramlintide

Preparation type	Use	Examples
Rapidly acting	Premeal bolus to cover extra requirements after food	Aspart, glulisine, lispro, regular, crystalline zinc insulin (CZI)
Intermediate or long acting	Basal supplementation to suppress glucose production and maintain normoglycemia in the fasting states	NPH (neutral protamine Hagedorn), lente, ultralente, detemir, glargine



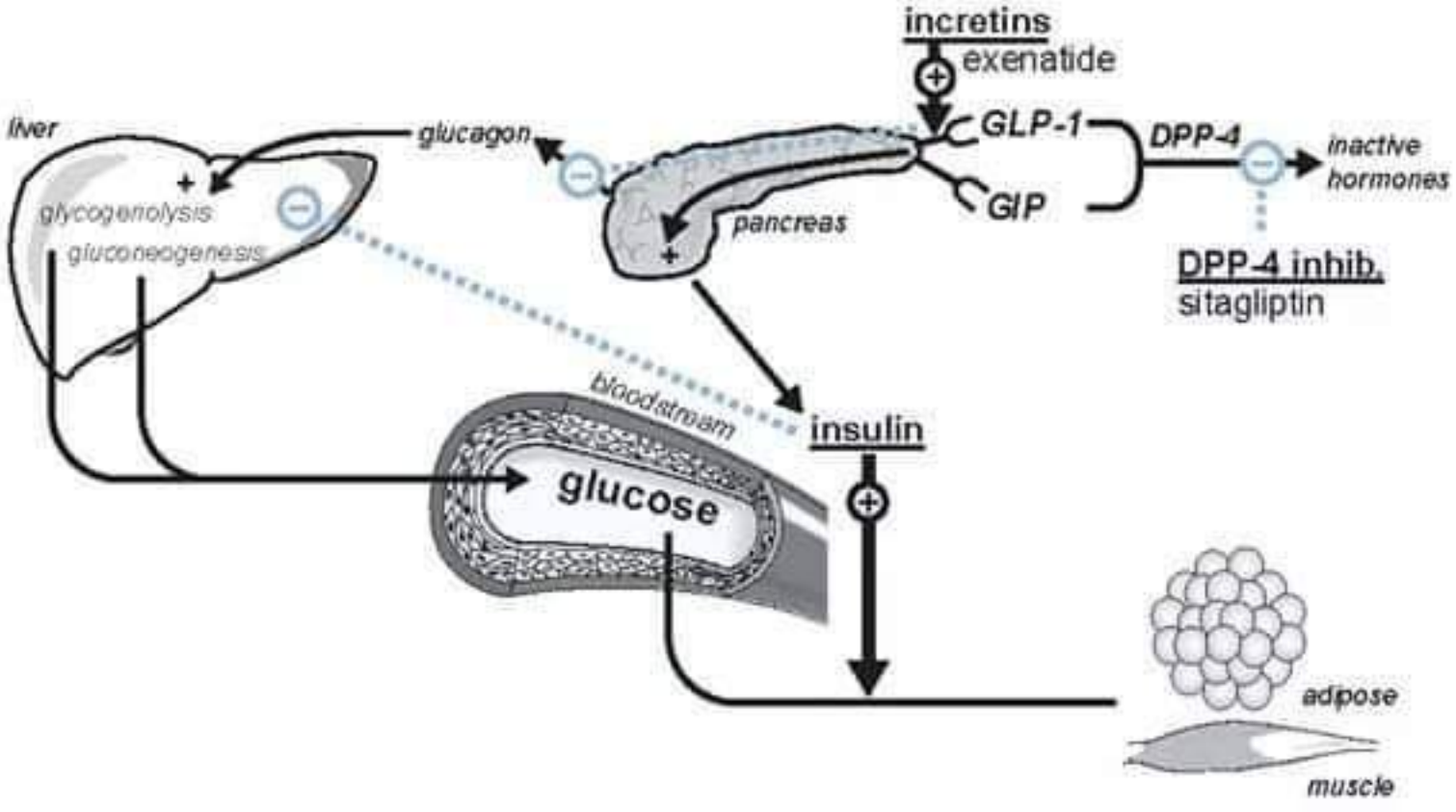
ENDO

GLYBURIDE	
Glipizide	Acetohexamide
Glimepiride	Tolazamide
Tolbutamide	Chlorpropamide



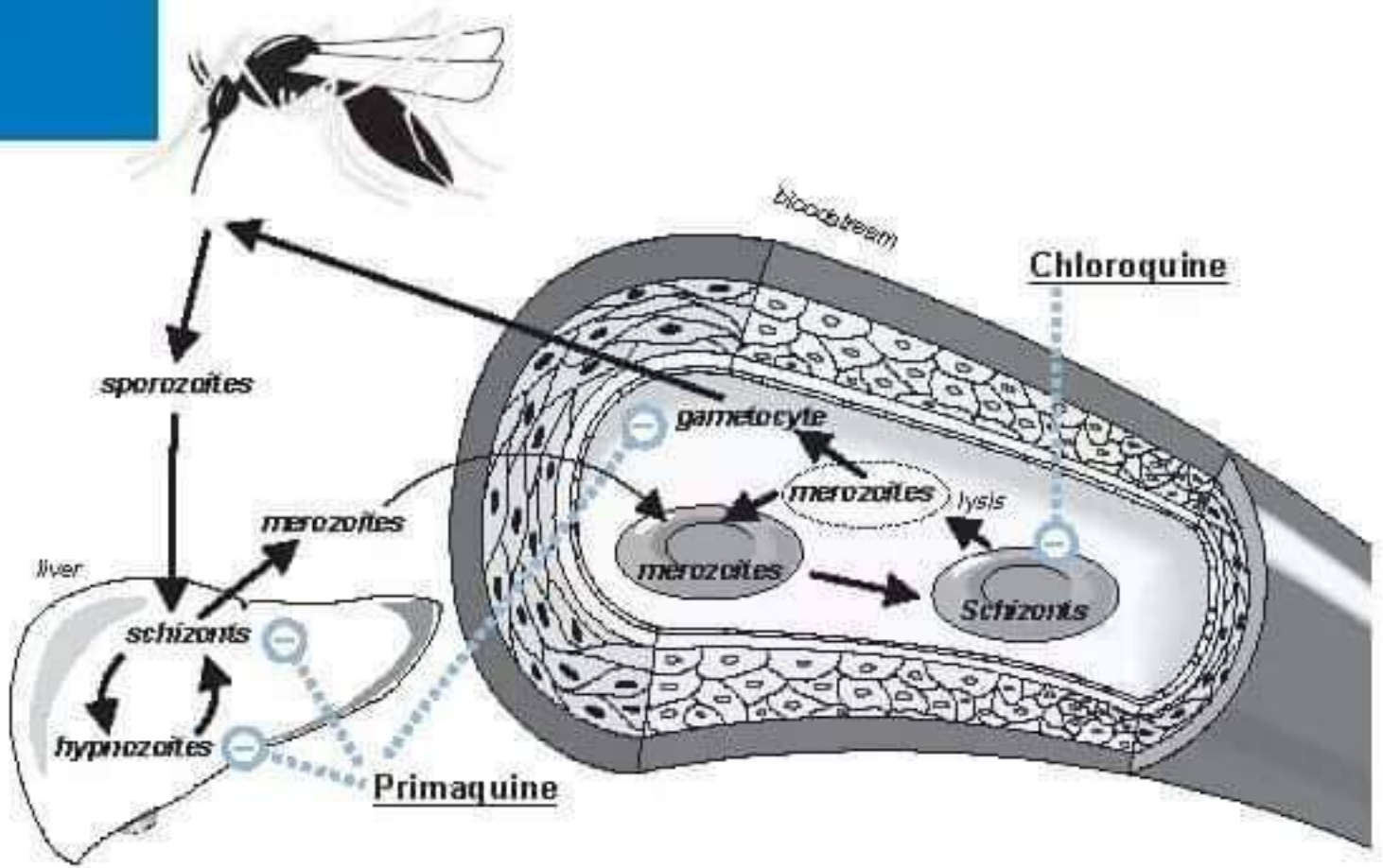
ENDO

EXENATIDE
Sitagliptin
Saxagliptin

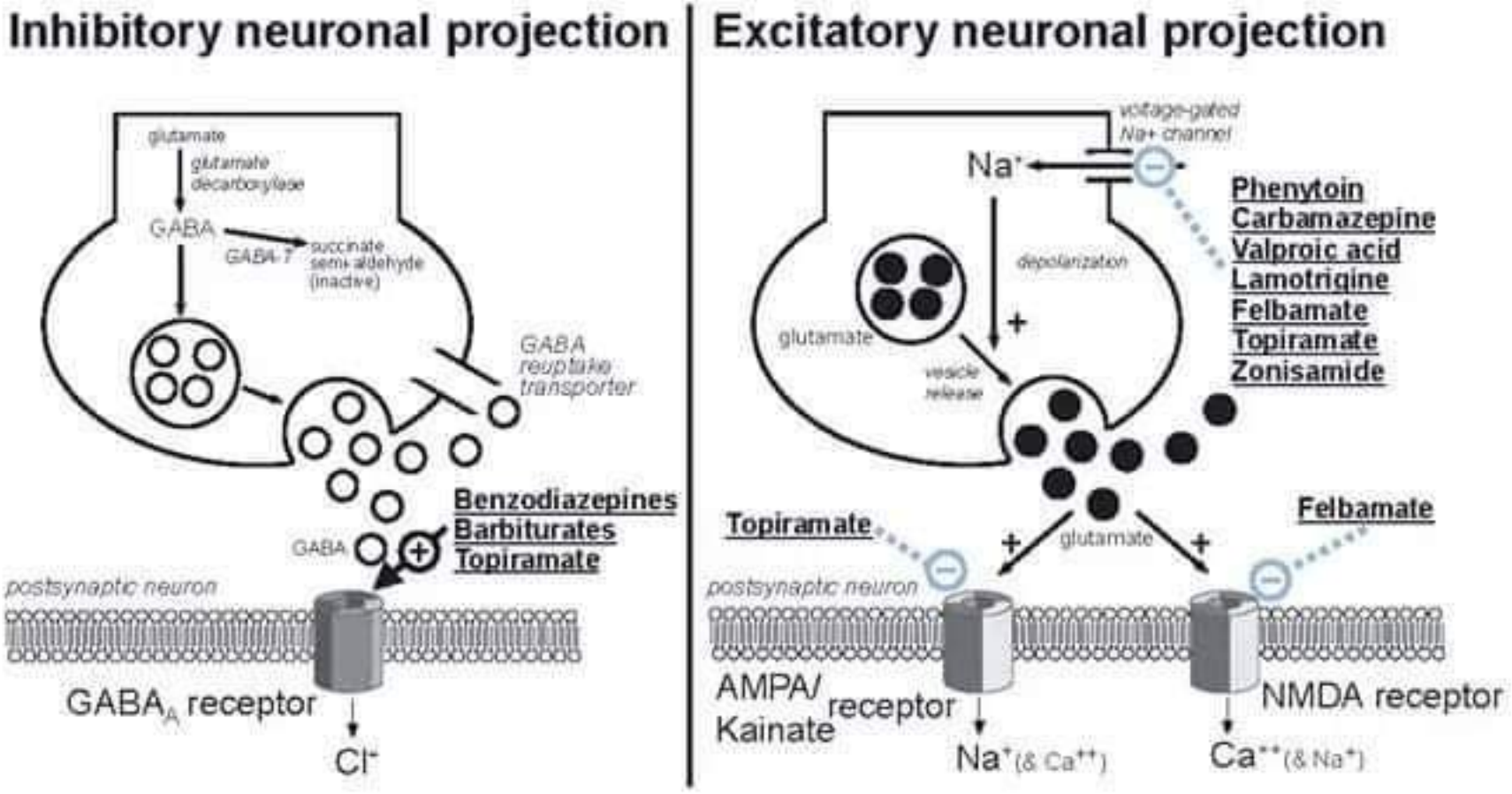


MICRO

CHLOROQUINE
Melloquine
Quinine



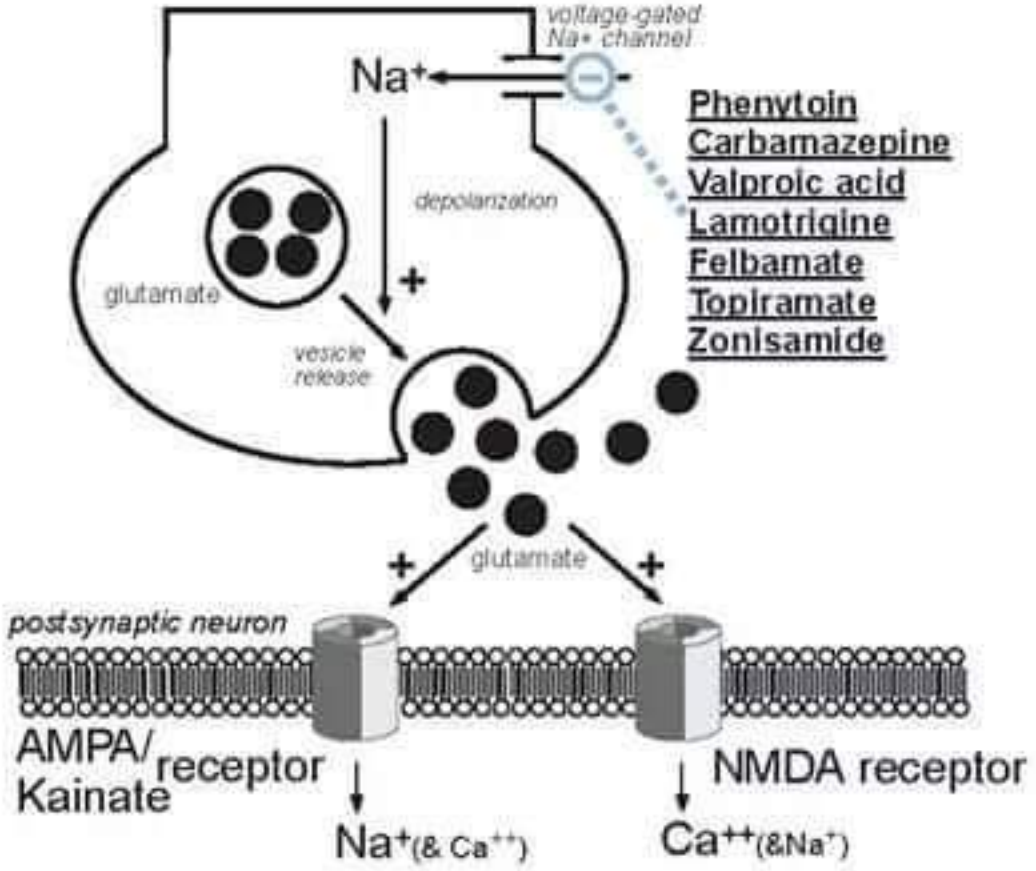
TOPIRAMATE
Felbamate



(Adapted from Rho, JM, Sankar, R. The pharmacologic basis of antiepileptic drug action. *Epilepsia* 1999;40:1471–1483.)

VALPROIC ACID

Excitatory neuronal projection



(Adapted from Rho, JM, Sankar, R. The pharmacologic basis of antiepileptic drug action. *Epilepsia* 1999;40:1471–1483.)

INFLAM

CROMOLYN
Nedocromil
Lodoxamide
Pemirolast
Omalizumab