

Some Competitive Inhibitors Used as Drugs

Amet hopterin and Aminopterin

analog = folic acid

dihydrofolate $\xrightarrow{\text{reductase}}$ tetrahydrofolate $\rightarrow$ purine + thymine nucleo.
 $\hookrightarrow$ inhibit this

DNA synthesis and cell division inhibited $\rightarrow$ suppress cell division

Allopurinol

$\hookrightarrow$ cancer

analog = hypoxanthine

xanthine $\xrightarrow{\text{oxidase}}$ uric acid
 $\hookrightarrow$ inhibit this

Inhibit overproduction of uric acid.

Physostigmine and Neostigmine

analog = acetylcholine

acetylcholinesterase breakdown of acetylcholine
 $\hookrightarrow$ inhibit this

myasthenia gravis $\rightarrow$ auto immune disorder $\rightarrow$ decreased number acetylcholine

Mevastatin and Lovastatin

analog = hmg coA

hmg coA reductase increase cholesterol synthesis

$\hookrightarrow$ inhibit this

used in hypocholesterolemic drugs