

Adrenergic receptor  
antagonist /  
Sympatholytic

These are the drugs that selectively inhibits the responses of sympathetic stimulation or block the effect produced by sympathomimetic drugs.

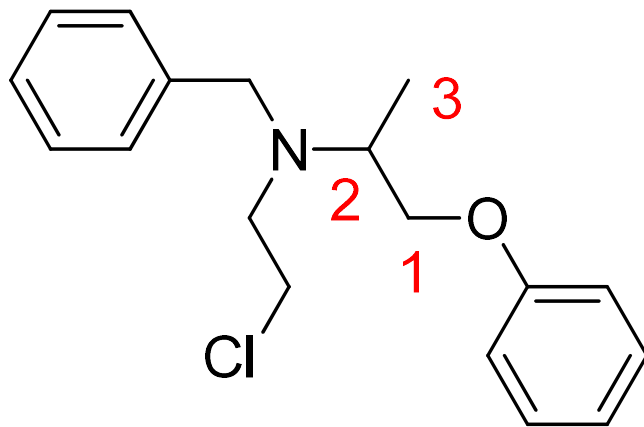
## Classification

They are divided into two major types based on their receptor selectivity.

### 1. $\alpha$ - Antagonist

- Non-Selective  $\alpha$  antagonist

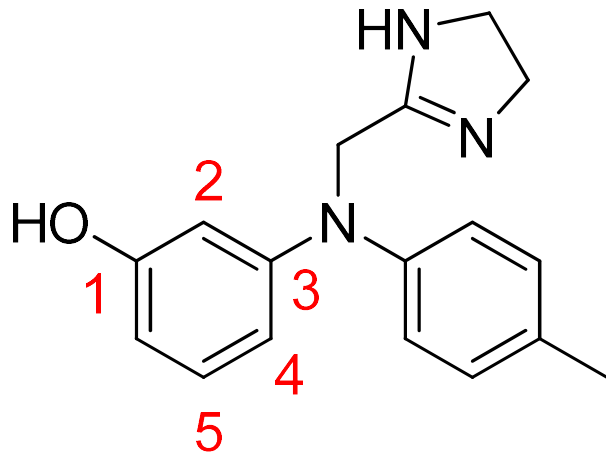
#### a. Haloalkyl amine derivatives



*N*-benzyl-*N*-(2-chloroethyl)-1-phenoxypropan-2-amine

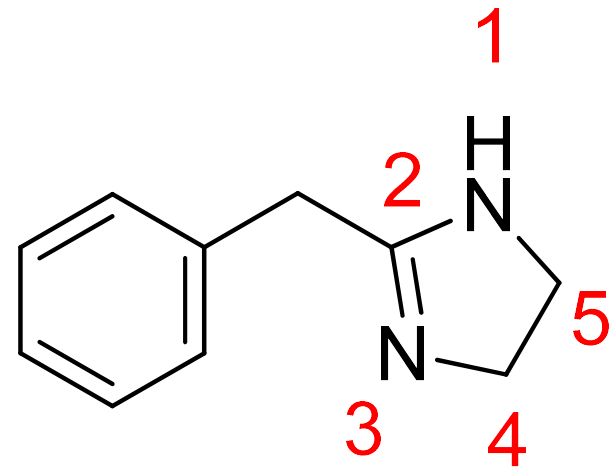
Phenoxybenzamine

## b. Imidazoline derivatives



Phentolamine

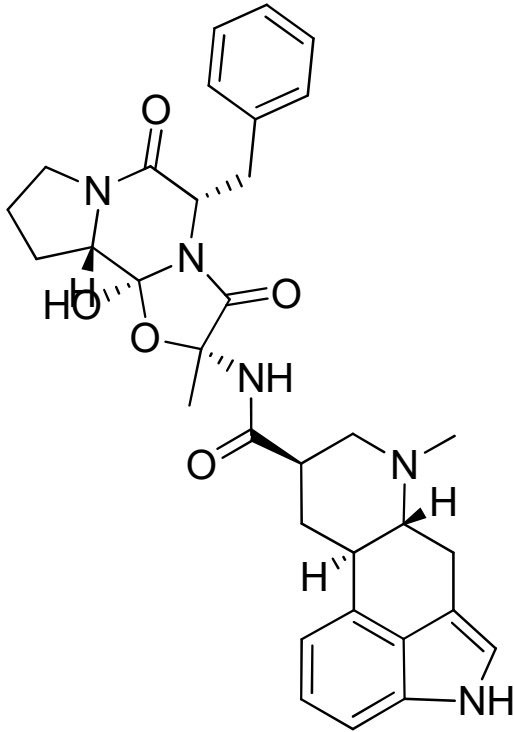
3-[*N*-(4,5-dihydro-1*H*-imidazol-2-ylmethyl)-4-methylanilino]phenol



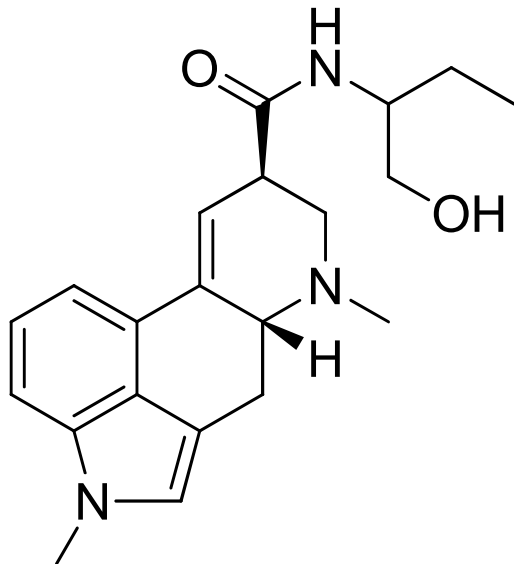
Tolazoline

2-benzyl-4,5-dihydro-1*H*-imidazole

## C. Ergot alkaloids

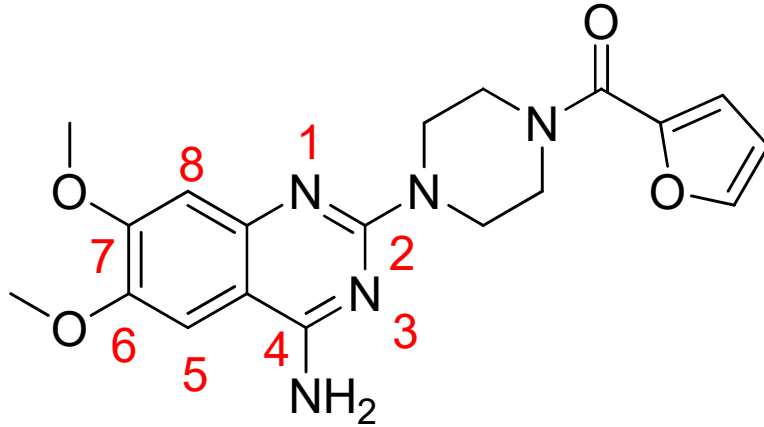


Dihydroergotamine



Methysergide

- $\alpha_1$  Selective antagonist



Prazosin

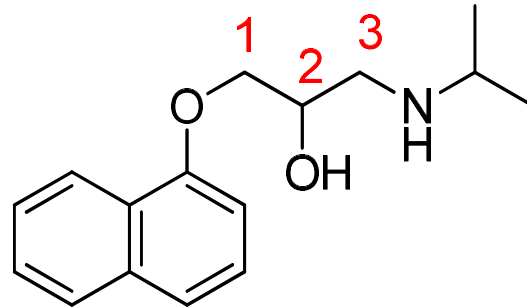
2-[4-(furan-2-carbonyl)piperazin-1-yl]-6,7-dimethoxyquinazolin-4-amine

- $\alpha_2$  Selective antagonist

Yohimbine

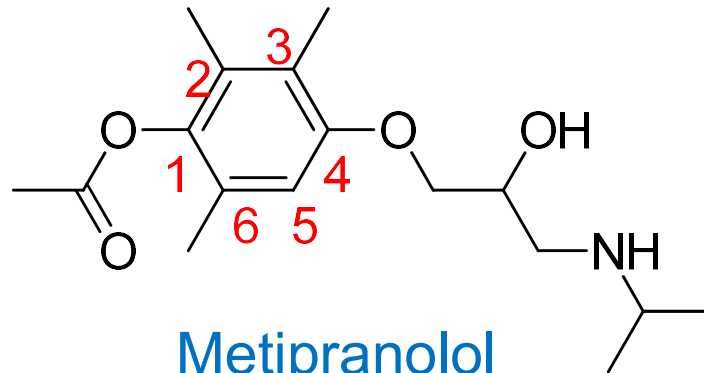
## 2. $\beta$ -Adrenoreceptor antagonist

- Nonselective  $\beta$  antagonist



Propranolol

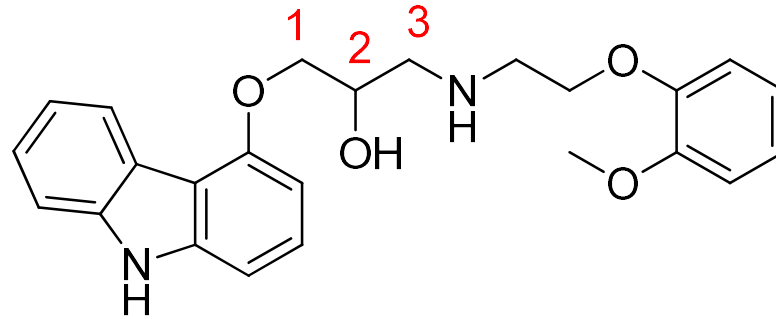
1-(naphthalen-1-yloxy)-3-[(propan-2-yl)amino]propan-2-ol



Metipranolol

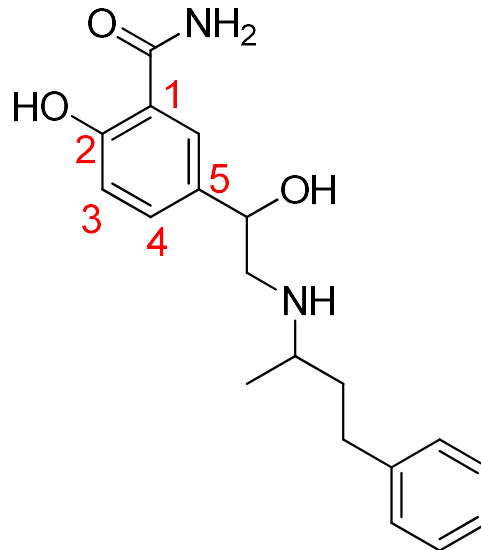
4-{2-hydroxy-3-[(propan-2-yl)amino]propoxy}-2,3,6-trimethylphenyl acetate

- Selective  $\beta$  antagonist with  $\alpha$  antagonist properties



Carvedilol

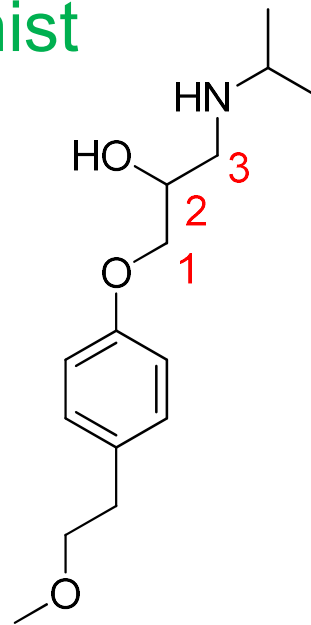
1-(9H-carbazol-4-yloxy)-3-[[2-(2-methoxyphenoxy)ethyl]amino]propan-2-ol



Labetolol

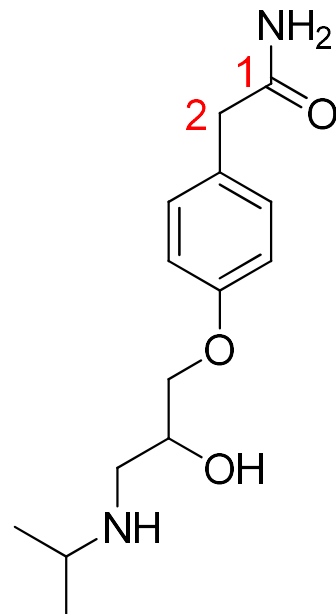
2-hydroxy-5-{1-hydroxy-2-[(4-phenylbutan-2-yl)amino]ethyl}benzamide

○ Selective  $\beta_1$  antagonist



Metoprolol

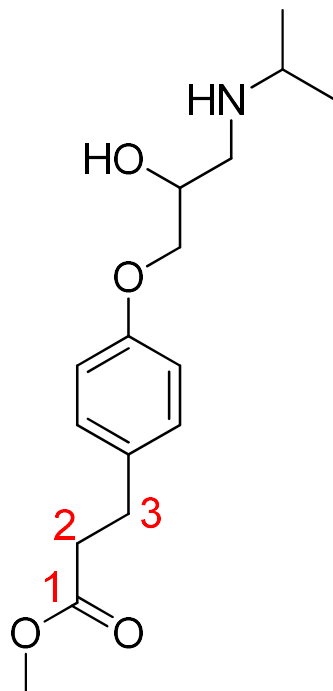
1-[4-(2-methoxyethyl)phenoxy]-3-[(propan-2-yl)amino]propan-2-ol



Atenolol

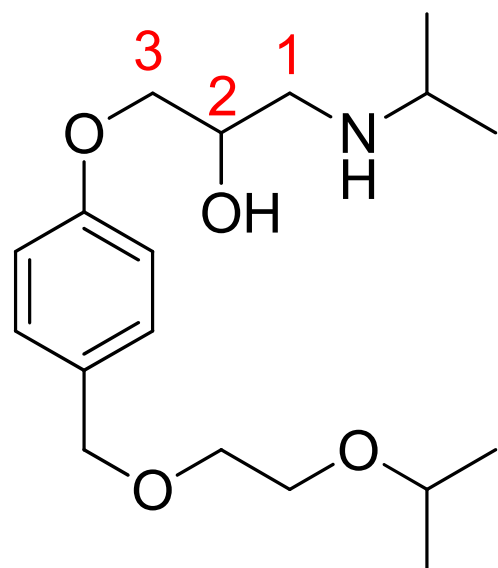
2-(4-{2-hydroxy-3-[(propan-2-yl)amino]propoxy}phenyl)acetamide





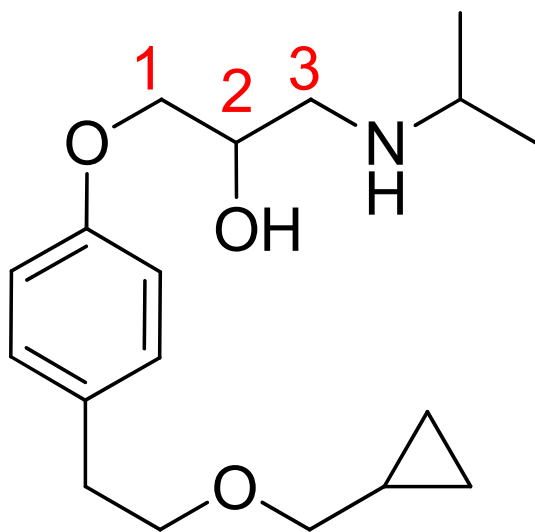
Esmolol

methyl 3-(4-{2-hydroxy-3-[(propan-2-yl)amino]propoxy}phenyl)propanoate



Bisoprolol

1-[(propan-2-yl)amino]-3-(4-{[2-(propan-2-yloxy)ethoxy]methyl}phenoxy)propan-2-ol



Betaxolol

1-{4-[2-(cyclopropylmethoxy)ethyl]phenoxy}-3-[(propan-2-yl)amino]propan-2-ol