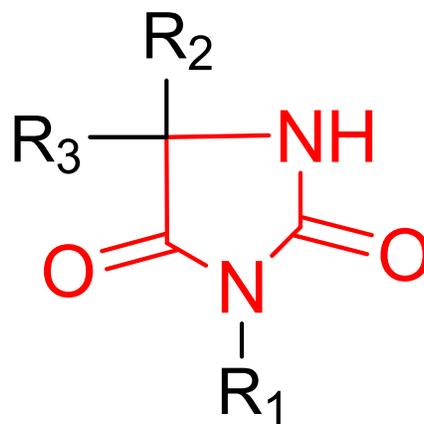


SAR of Hydantoins

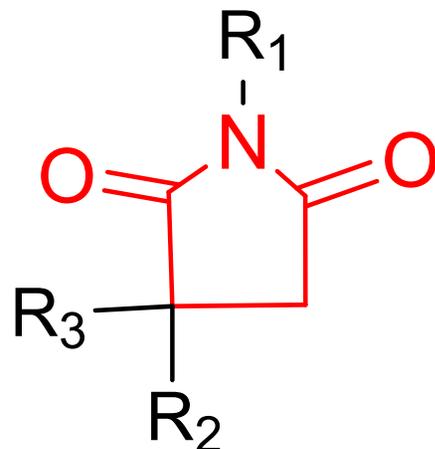
The general structure of hydantoins are represented below



- A phenyl or other aromatic substituents at C5 is essential for the activity.
- Alkyl substituents at position 5 may contribute to sedation, a property absent in phenytoin.
- Other hydantoins, like thiohydantoins, dithiohydantoins, and 1, 3- disubstituted hydantoins, exhibit activity against chemically induced convulsions.

SAR of Succinimides

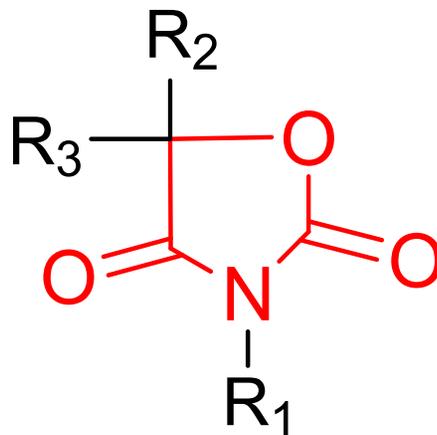
The general structure of hydantoins are represented below



- Methsuximide and phensuximide have phenyl substituents which makes them active against electrically induced convulsion.
- N-Methylation decreases activity against electroshock seizures and impart more activity against chemically induced convulsion.

SAR of Oxazolidinediones

The general structure of hydantoin derivatives are represented below



- The nature of substituent at 5th position is important for activity. e.g. lower alkyl substituents are active against petitmal epilepsy while aryl substituents lead to anti-grandmal activity.
- The N-alkyl substituent does not affect activity because this class undergoes N-dealkylation to produce active metabolite.