

METABOLISM IN PHARMACEUTICAL DESIGN

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Drug metabolism is the metabolic breakdown/ **chemical changes** of drugs by living organisms, usually through specialized enzymatic systems.

- **Metabolite** is the product of a drug after metabolic reactions.

These chemical changes in the structure of the drug;

Gives important tips on developing new drugs.

- *pharmacological activity,**
- *toxicity,**
- *physicochemical properties,**
- *duration of action and**
- *Pharmacokinetic properties.**

- **Metabolism** is a very important mechanism for the elimination of drugs from the body.
- Only small molecules or compounds which can ionize at physiological pH can be removed from the kidneys; lipophilic compounds reabsorb from the tubules.

- Lipophilic compounds remain in the organism for a long time and accumulate in adipose tissues or various tissues (most drugs are lipophilic in character) if there is no change in their structure.
- Thus, the organism has developed enzyme systems that convert lipophilic compounds into hydrophilic products that can be excreted from the body.

Metabolism is a detoxification reaction. However, in some cases, the metabolite may be more toxic.

