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DT AND RAD

BIOCHEMISTRY

ASSIGNMENT FOR VIVA

**(STEPS INVOLVED IN URIC ACID FORMATION )**

**Uric acid** is the last product of purine metabolism in humans. The **formation of uric acid** is through the enzyme xanthine oxidase, which oxidizes oxypurines.

Xanthine oxidase is an enzyme which catalyzes the **formation of uric acid** from xanthine and hypoxanthine, which in turn are produced from other purines.

**Chemical formula**‎: ‎C5H4N4O3

Uric acid is a heterocyclic purine derivative that is the final oxidation product of [purine](https://pubchem.ncbi.nlm.nih.gov/compound/purine) metabolism. It is produced by the enzyme [xanthine](https://pubchem.ncbi.nlm.nih.gov/compound/xanthine) oxidase, which oxidizes oxypurines such as [xanthine](https://pubchem.ncbi.nlm.nih.gov/compound/xanthine) into uric acid.

Uricacid is a waste product created during the normal breakdown of purines, naturally occurring substances found in foods such as liver, mushrooms, anchovies, mackerel and dried beans according to the NIAMS. Uricacid is normally cleaned out of the blood by the kidneys, and passes out of the body along with urine

 However, high levels of uric acid can accumulate in the body, either when the kidneys excrete too little uric acid or when the body produces too much uric acid. This condition is known as hyperuricemia, according to the NIH.

Uric acid is a heterocyclic compound of carbon, nitrogen, oxygen, and hydrogen with the formula C5H4N4O3. It forms ions and salts known as urates and acidurates, such as ammonium acid urate. Uric acid is a product of the metabolic breakdown of purine nucleotides, and it is a normal component of urine. High blood concentrations of uric acid can lead to gout and are associated with other medical conditions, including diabetes and the formation of ammonium acid urate kidney stones.

The high concentration of uric acid in the blood will eventually convert the acid into urate crystals, which can then accumulate around the joints and soft tissues. Deposits of the needle-like urate crystals are responsible for the inflammation and the painful symptoms of gout.

There are several factors that can make a person more susceptible to gout, according to the NIH. A few are:

* Having a family history of gout
* Being overweight
* Having kidney problems
* Lead exposure
* Drinking too much alcohol
* Taking certain medications like diuretics or niacin