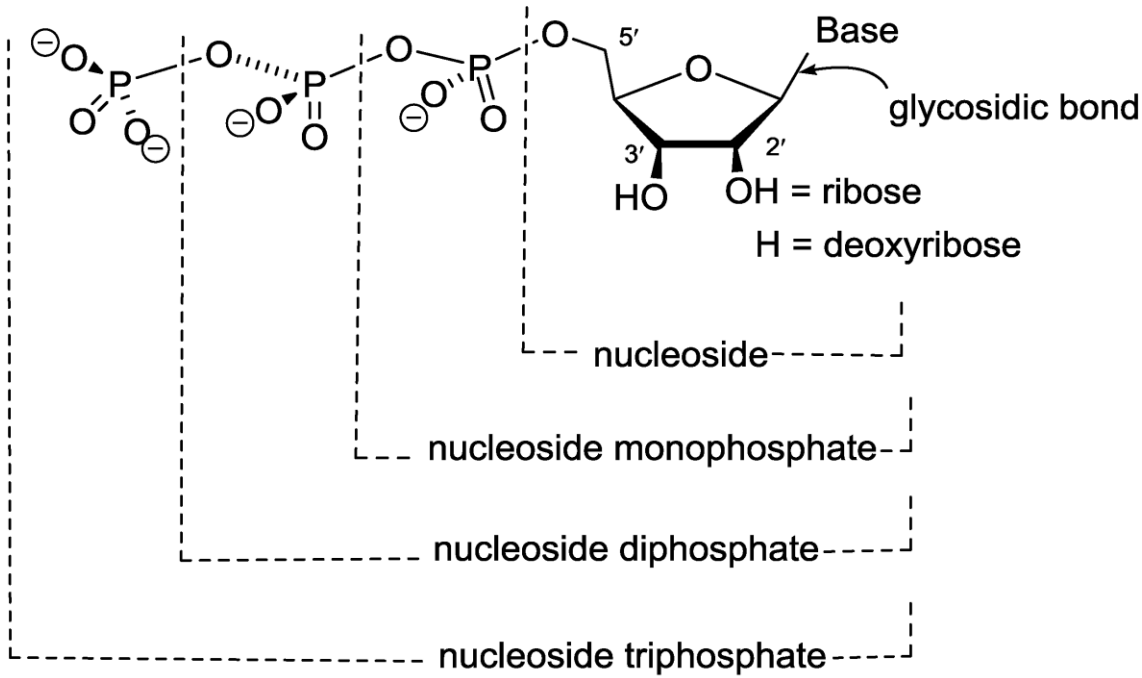


Degradation of purine nucleotides; Hyperuricemia

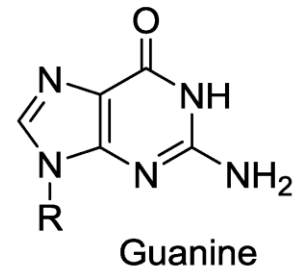
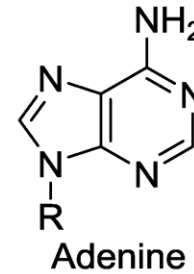
2. week

Nucleotides

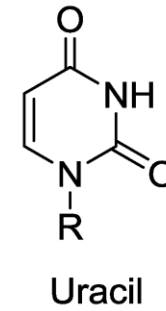
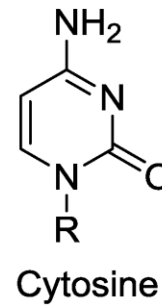
Pentose



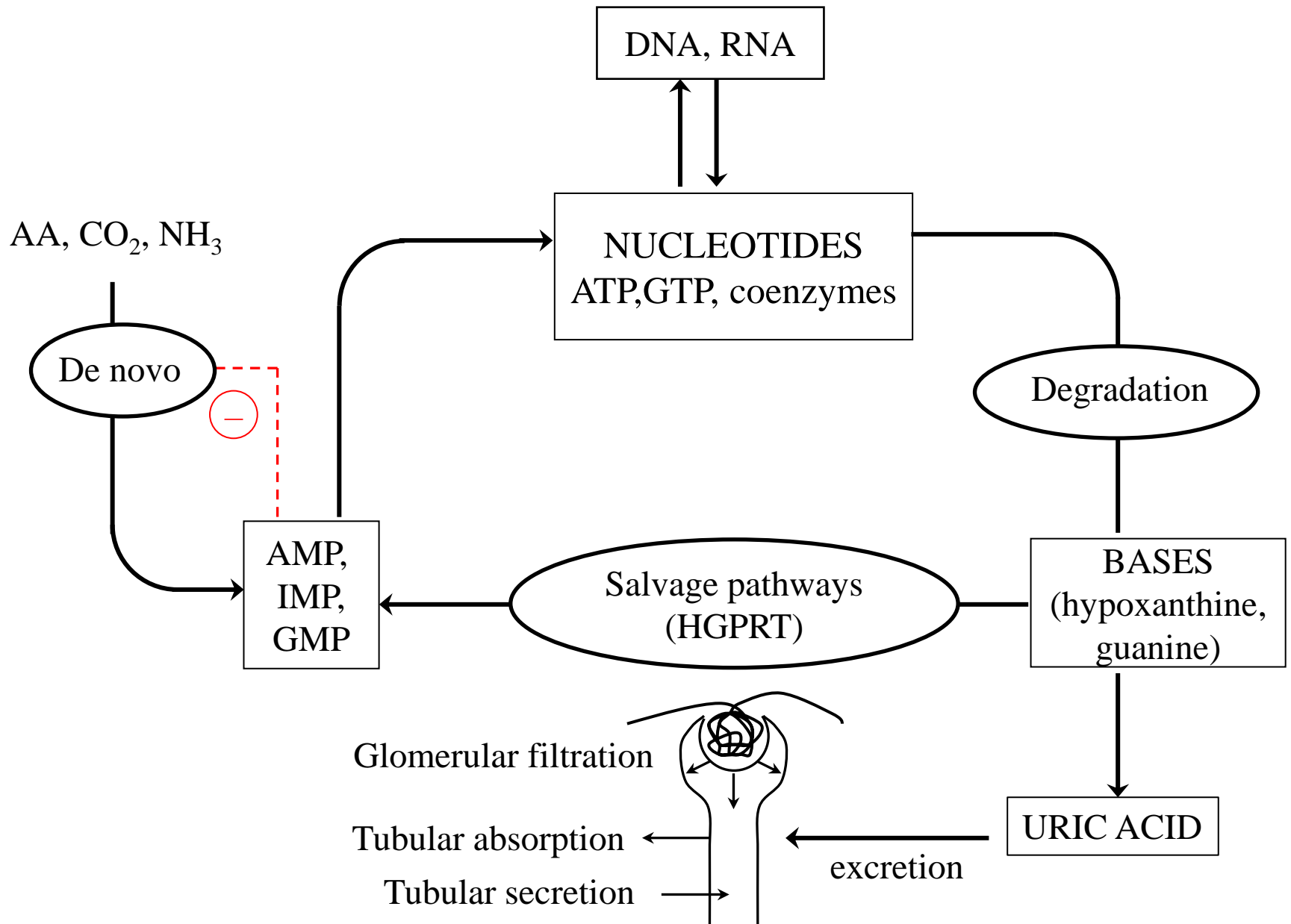
Purines



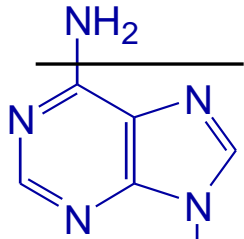
Pyrimidines



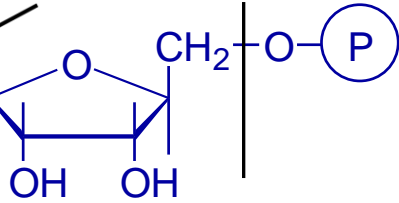
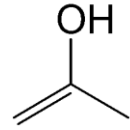
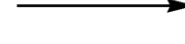
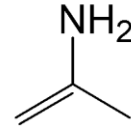
Metabolism of nucleotides



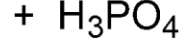
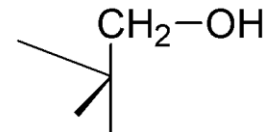
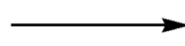
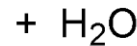
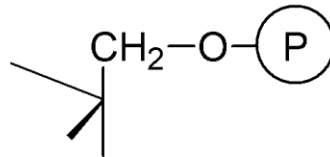
Types of purine nucleotide degradation enzymes



deaminase



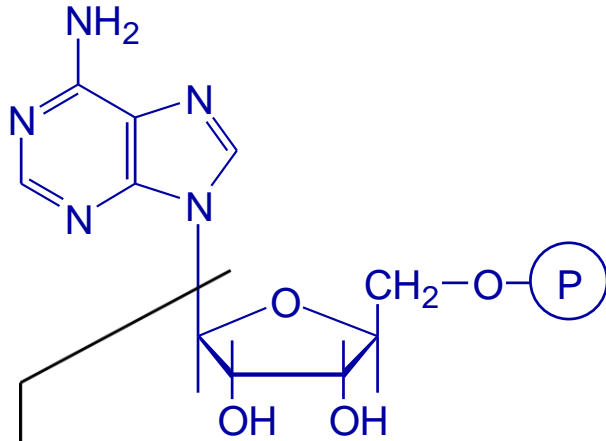
5'-nucleotidase



purine nucleoside phosphorylase

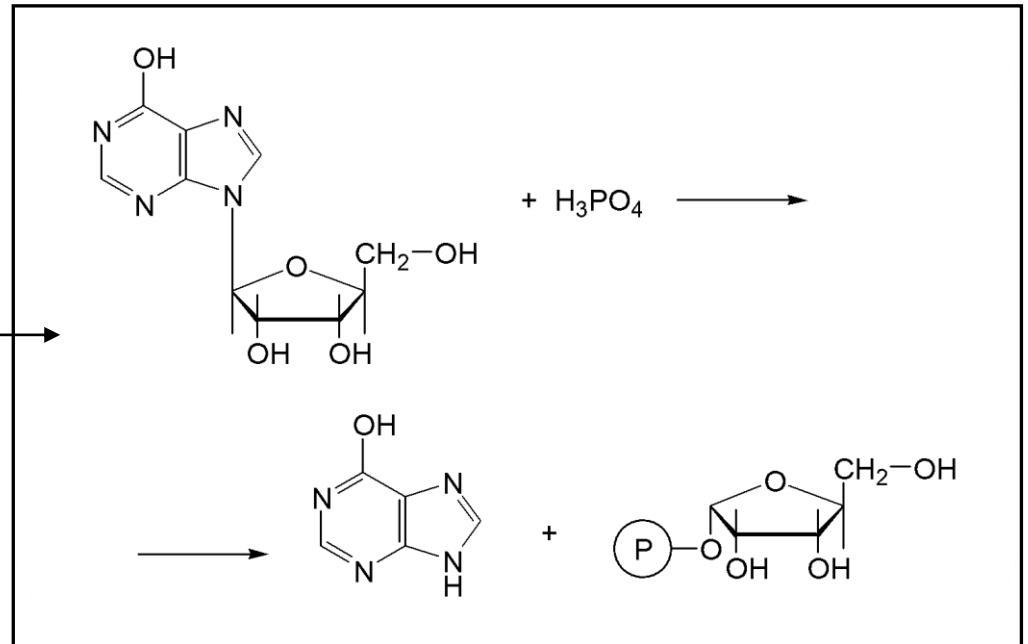


Types of purine nucleotide degradation enzymes

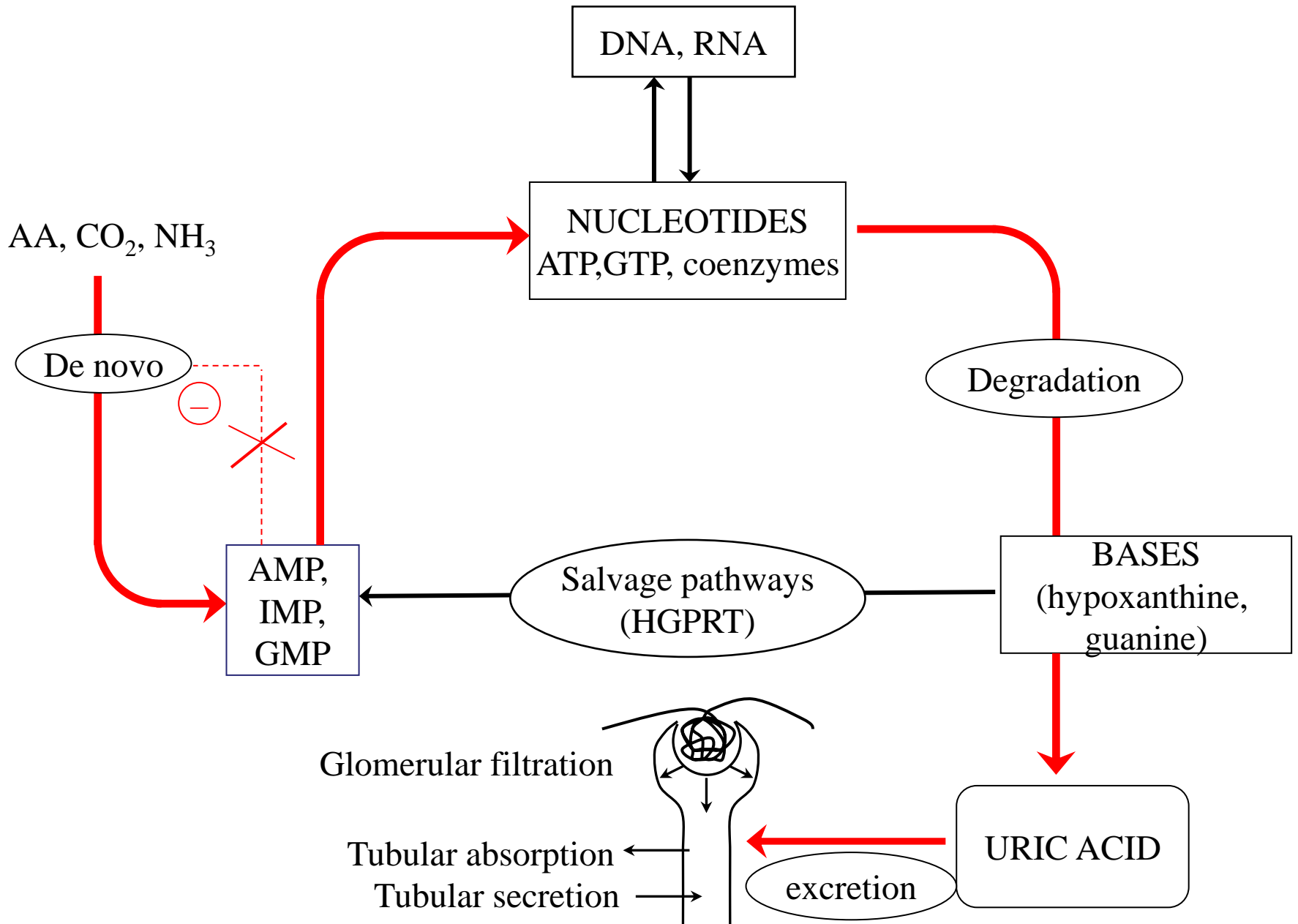


purine nucleoside phosphorylase

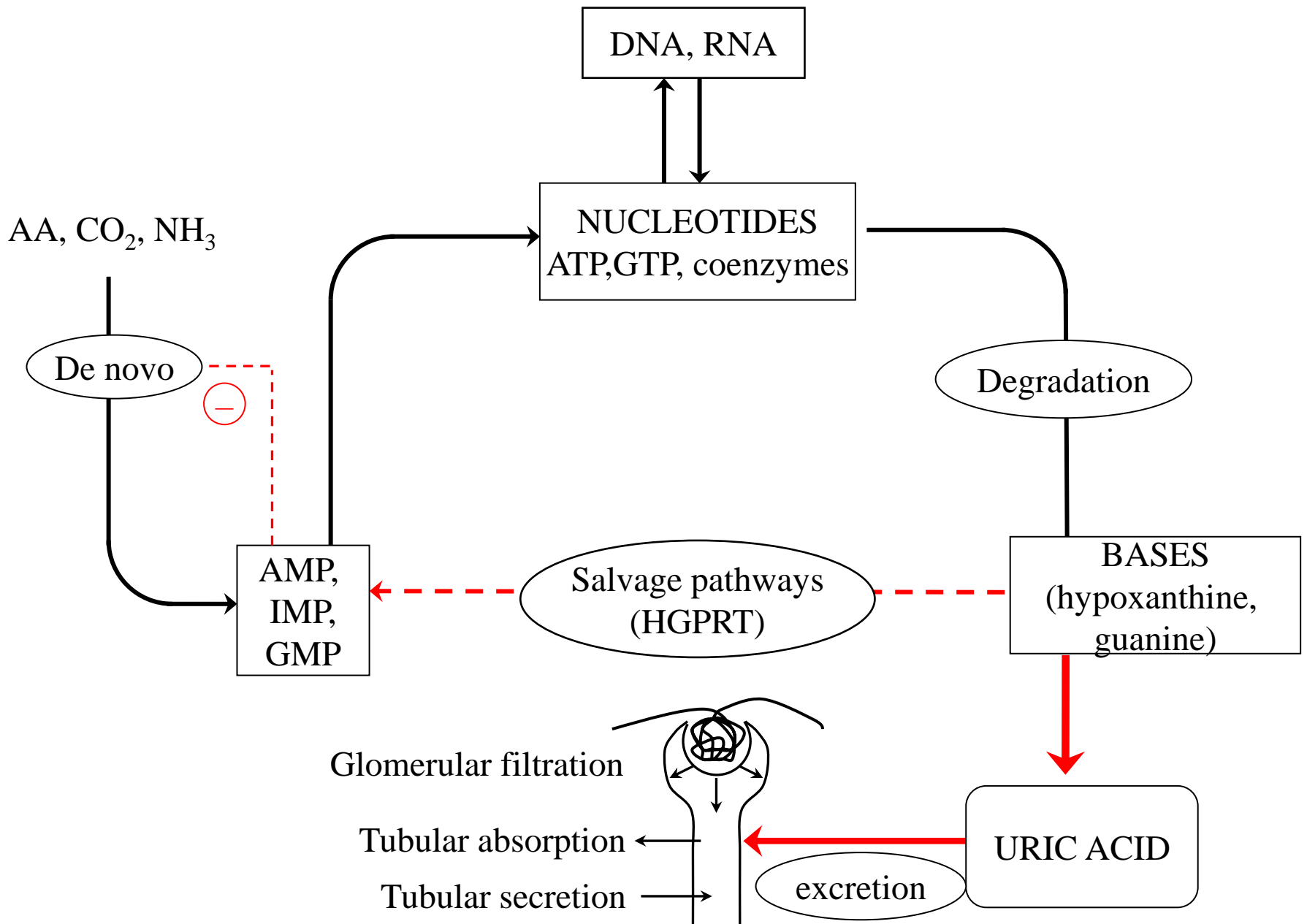
- phosphorolytic cleavage



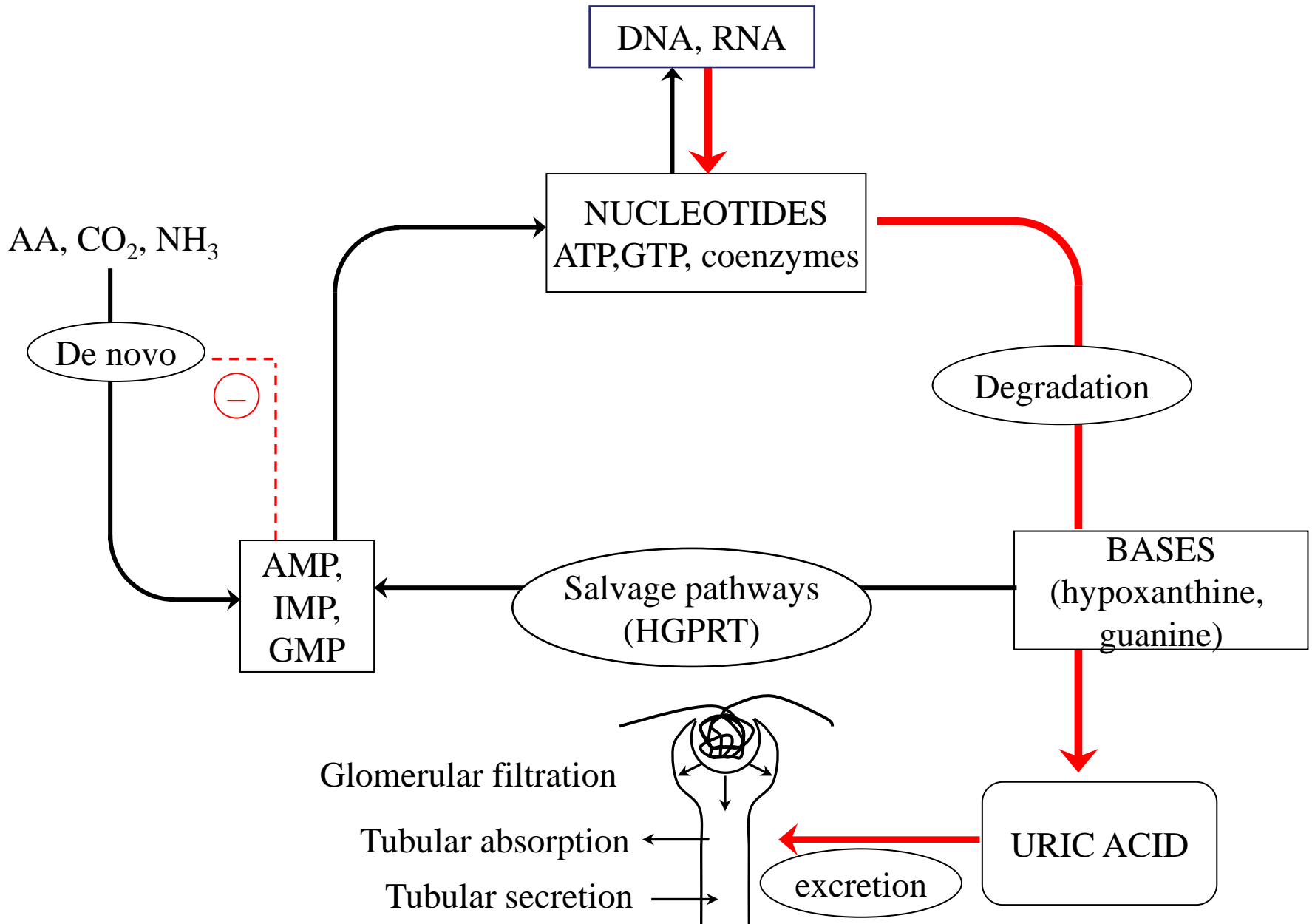
Primary metabolic hyperuricemia



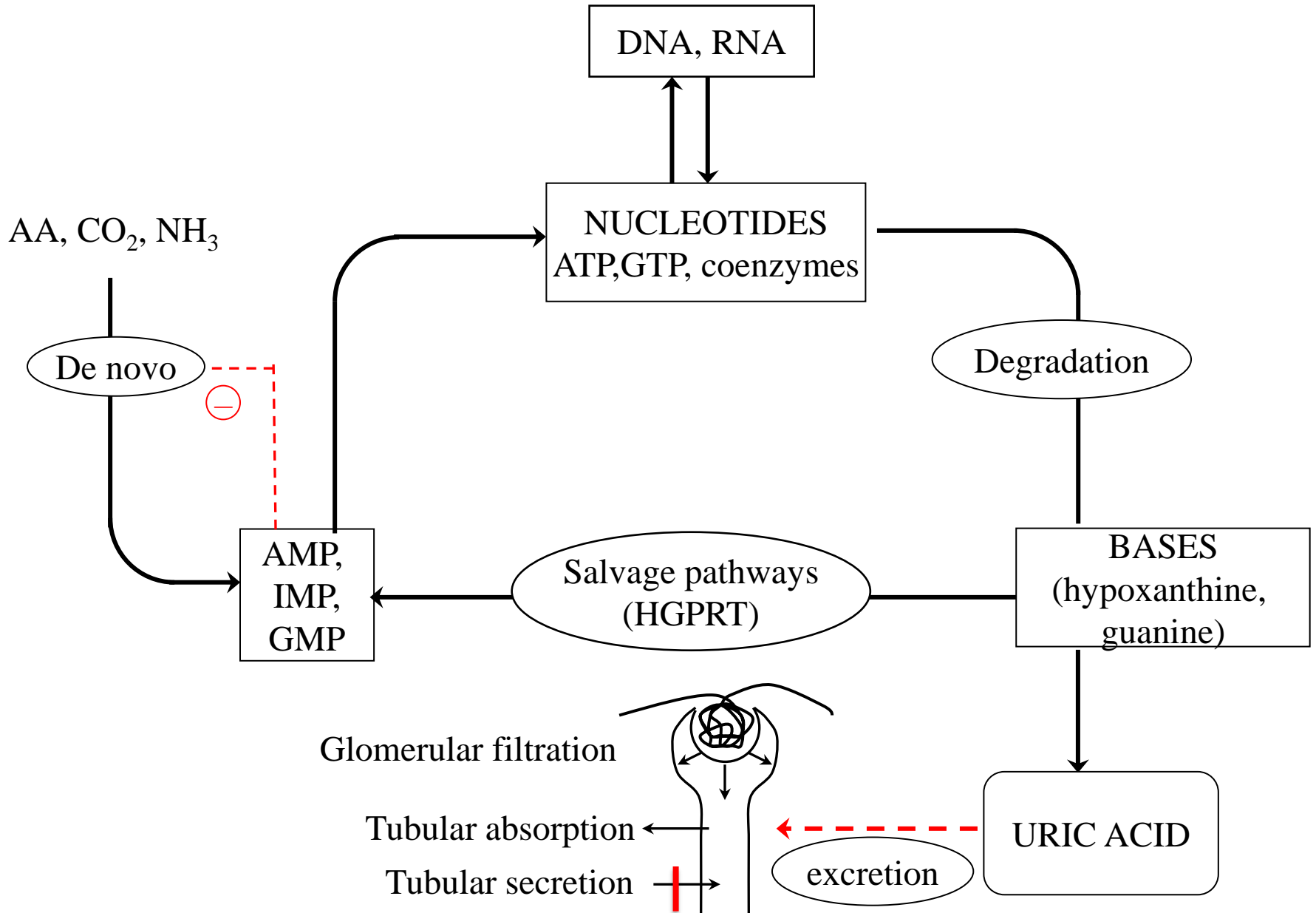
Primary metabolic hyperuricemia



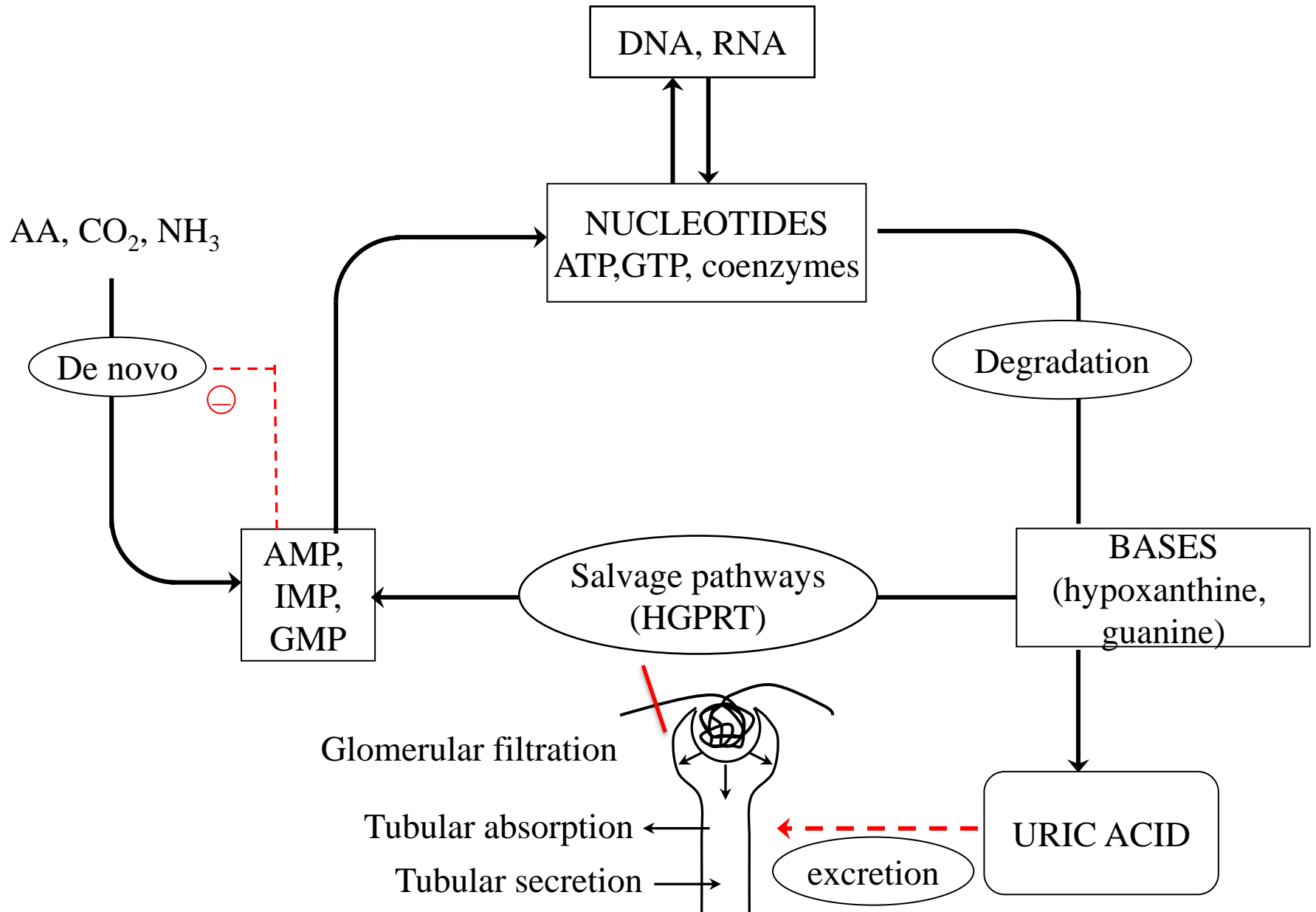
Secondary metabolic hyperuricemia



Primary renal hyperuricemia



Secondary renal hyperuricemia



Differential diagnosis of hyperuricemia

Hyperuricemia

METABOLIC

↑ production of uric acid

Primary:

enzyme defects

- ↑ synthesis of purines
- ↓ salvage pathways

Secondary:

- ↑ uptake of purines by food
- ↑ degradation of nucleic acids
(destruction of the cells, tumors, cytostatics)

RENAL

↓ excretion of uric acid

Primary:

- ↓ tubular secretion
(defect in transport system)

Secondary:

- ↓ glomerular filtration

Uric Acid in Saliva

- 70-85% of the total **antioxidant capacity** of saliva
- scavenger of oxygen and nitrogen free radicals (superoxide, peroxynitrite)
in the hydrophylic environment
- alterations of UA levels (↑) in blood have been associated with the presence or severity of periodontitis
- gout/ hyperuricemia may change the composition of the oral microbiome and lead to pathological conditions in the oral cavity