Flavins, from the Latin flavus (yellow), are a class of organic compounds based on pteridine (1). Their core structure consists of the tricyclic heterocyclic isoalloxazine (2), and they may be substituted with a variety of functional groups (denoted as ‘R’ on the isoalloxazine ring).

A flavin with significant biochemical importance is riboflavin (vitamin B2). Riboflavin (C_{17}H_{20}N_{4}O_{6}, or 7,8-dimethyl-10-(1’-ribofuranosyl)isoalloxazine) exists in three forms; free riboflavin (B) and its two cofactor forms flavin mononucleotide (FMN), or riboflavin-5’-phosphate (FAD) and flavin adenine dinucleotide (FADP).

As the exclusive source for the coenzymes FMN and FAD in humans, riboflavin is a water-soluble vitamin critical for metabolism and energy production. The cofactors are required by flavoproteins for proper function and in their coenzyme forms, riboflavin is involved in essential oxidation-reduction reactions through one- and two-electron transfer processes. Deficiency from inadequate dietary intake, disease, or excess ethanol ingestion may lead to skin and mucosal disorders (e.g., angular cheilitis; inflammatory lesion at the corner of the mouth, shown below) and anemia. In addition, riboflavin deficiency may result in other symptoms such as sensitivity to sunlight, glossitis (inflammation of the tongue) and seborrheic dermatitis. A regimen of riboflavin supplementation is typically sufficient to improve concentrations of the biologically active coenzymes FMN and FAD. Laboratory assessment of riboflavin status may be made by direct measurement of the vitamin in plasma.