

Solutions to [Test Your Knowledge: Uromodulin and Kidney Injury](#)

1. B. Uromodulin (Tamm-Horsfall protein) is expressed exclusively in the cells lining the thick ascending limb of the nephron.
2. A. HNF1 β binds to the promoter elements of the *UMOD* gene, and inactivation of this transcription factor is associated with decreased expression.
3. B. False, uromodulin is not necessary for the formation of urinary casts. Uromodulin has been implicated in cast formation during ischemic acute kidney injury. However, in uromodulin knockout mice, cast formation was actually increased.
4. C. Single-nucleotide polymorphisms (SNPs) have been found through genome wide association studies to be associated with decreased risk of chronic kidney disease (See [Köttgen et al article](#)). These SNPs are located within the promoter region of *UMOD* gene. Mutations in uromodulin leading to protein folding abnormalities are associated with progressive kidney disease in familial juvenile hyperuricemic nephropathy. The misfolded uromodulin protein is unable to leave the endoplasmic reticulum and leads to stress.
5. D. [Muchmore and Decker](#) described an immunosuppressive effect on T cells in vitro. A number of other studies have suggested that uromodulin may have a proinflammatory role by activating neutrophils, monocytes and dendritic cells.