

# Urotensin II: Molecular mechanisms of biological activity

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Urotensin II (UT II) is an important factor of cellular homeostasis. This regulatory peptide is involved in the pathophysiology of many disorders. For example, it plays an important role in the pathogenesis of acute and chronic diseases, stressful and adaptive reactions of the body, in the development of cardiovascular pathologies, metabolic syndrome, inflammation, liver cirrhosis, renal failure, diabetic nephropathy, reproductive dysfunction, progression of psychosomatic, psychoendocrinal and psychiatric disorders. In this concern, the involvement of UT II in the pathophysiology of many processes determines the perspectives for the development of blockers of urotensin receptors for the treatment of the aforementioned diseases. It is important that even today this kind of perspective is feasible due to the synthesis of a series of GPR14 blockers. The objective of this review is to discuss current molecular mechanisms of biological activity, regulatory functions of UT II, its role in the pathogenesis of different nosologies, as well as analysis of the possible routes of exposure to GPR14 as potential therapeutic targets. © 2018 Bentham Science Publishers.

Cancer

Drug design

G-protein-coupled receptors

Hormonal systems

Kidney

Molecular targets of Urotensin II in cardiovascular

Nervous

Regulatory peptides

Sexual function

Stress

Urotensin II

G protein coupled receptor

urotensin

urotensin II

UTS2R protein, human

animal

antagonists and inhibitors

atherosclerosis

diabetes mellitus

heart failure

homeostasis

human

hypertension

kidney failure

metabolism

molecularly targeted therapy

Animals

Atherosclerosis

Diabetes Mellitus

Drug Therapy

Heart Failure

Homeostasis

Humans

Hypertension

Molecular Targeted Therapy

Receptors, G-Protein-Coupled

Renal Insufficiency

Urotensins