Tentative Outline

Special issue for Protein & Peptide Letters

Guest Editor: Lucas M. Kangussu

Renin-Angiotensin System: Role in cerebrovascular, neurodegenerative and psychiatric disease

Aims & Scope:
The renin–angiotensin system (RAS) is an endocrine system which produces angiotensin peptides through an enzymatic cascade. The RAS initiates with angiotensinogen (AGT) expression at different tissues. This protein is produced by several cell types, however, in normal physiology, the liver is still considered the primary source of circulating AGT. Kidney enzyme Renin cleaves AGT to produce angiotensin I (Ang I), a peptide that is hydrolyzed by angiotensin-converting enzyme (ACE) to the octapeptide, Angiotensin II (Ang II), which acts through specific receptors (AT\textsubscript{1} and AT\textsubscript{2} receptors). Besides Ang II, several other angiotensin peptides formed from AGT have biological activity. The main one is Angiotensin-(1–7) [Ang-(1-7)], that broadly opposes Ang II actions and interacts with the Mas receptor. Ang-(1–7) is a product of the Ang II degradation through action of the ACE-homologue enzyme (ACE2) and also directly from Ang I by prolyl endopeptidase (PEP) and neutral endopeptidase (NEP). Very recently, new peptides and receptors have been described and added to this complex system, like Ang A (Ala\textsuperscript{1}-Ang II) and Alamandine [Ala\textsuperscript{1}-Ang-(1-7)]. Ang A is a vasoconstrictive angiotensin-derived peptide, which can be formed from Ang II by decarboxylation of the Asp\textsuperscript{1} residue to Ala\textsuperscript{1}. On the other hand, Alamandine, which interacts specifically with the Mas-related receptor (MrgD), is generated by catalytic action of ACE2 on Ang A or by decarboxylation of the Asp\textsuperscript{1} residue of Ang-(1-7) to Ala\textsuperscript{1}. Several studies have associated cerebrovascular, neurodegenerative and psychiatric diseases with important alterations in systemic and local/tissue RAS. For this reason, in this special issue, we invite investigators to contribute with reviews and research articles that will help us better understand the role of angiotensin peptides in the cerebrovascular, neurodegenerative and psychiatric diseases.

Keywords: Renin–angiotensin system, Angiotensin peptides, Cerebrovascular diseases, Neurodegenerative diseases, Psychiatric diseases

Subtopics:
RAS in Cerebrovascular diseases
RAS in Neurodegenerative diseases
RAS in Psychiatric diseases
Physiology and Pharmacology of RAS
Cell signaling and RAS modulation

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