Nomenclature for Angiotensin Receptors
A Report of the Nomenclature Committee of the Council for High Blood Pressure Research

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The peptide hormone angiotensin II is produced by the sequential processing of the prohormone angiotensinogen by renin and angiotensin I converting enzyme. Angiotensin II, by interacting with cell-surface receptors, produces many diverse physiological effects. Over the last 3 decades, studies with peptide analogues of angiotensin II have provided important clues to the presence of angiotensin receptor subtypes. Recently, however, definitive evidence for the presence of angiotensin II receptor subtypes has been based on binding site analyses using the two series of nonpeptide angiotensin receptor antagonists: 1) the biphenylimidazoles typified by DuP 753,1 and 2) the tetrahydroimidazopyridines typified by PD 1231772 or structural analogues.2-3 The development of a markedly modified analogue of angiotensin II, CGP 42112A,4 has also been instrumental in providing evidence for the presence of angiotensin receptor subtypes. In the several publications that have resulted from the use of these antagonists, each group of investigators has proposed its own subclassification of the angiotensin receptor, which has led to some confusion. With the sole object of clarifying this issue, a nomenclature committee was established in 1990 by the American Heart Association Council for High Blood Pressure Research. The committee’s specific task was to make recommendations and provide guidelines for creating the nomenclature for angiotensin receptor subtypes. The committee met in Baltimore, Md., in September 1990.

The committee agreed that the format of the proposal should be based on the recently published “Receptor Nomenclature Supplement” in TiPS. The committee summarized the proposed classification. In choosing an abbreviation for the angiotensin receptor, we decided AT (angiotensin) would be more appropriate than Ang (the standard abbreviation for angiotensin peptides) because using the former would avoid confusion with the angiotensin receptor. The committee's specific task was to make recommendations and provide guidelines for creating the nomenclature for angiotensin receptor subtypes. The committee met in Baltimore, Md., in September 1990.

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AT receptors were denoted as subscript 1, 2, 3, and so on. Selective antagonists displaying differences in potency of at least two orders of magnitude were used to subclassify AT receptors as AT1 and AT2. The prototypical antagonist of the AT1 receptor is DuP 753. The prototypical antagonists of the AT2 receptor are CGP 42112A, PD 123177, and PD 123319. At present we realize that the classification of the AT2 receptor must be tentative until a function or a physiological response can be attributed to this angiotensin II binding site. Additionally, the designation of the ligands CGP 42112A, PD 123177, and PD 123319 as antagonists is tentative since a physiological response has not as yet been attributed to this angiotensin II binding site. If, on the basis of results with selective agonists or antagonists, convincing evidence can be...
presented for the further subdivision of the AT₁ or AT₂ receptor, we recommend that the subscripts A, B, C, and so on be used (e.g., AT₁A). Finally, we recommend that 1) the AT₁ notation replace the previous terminology (e.g., the type 1 angiotensin II receptor,¹,² the type B angiotensin II receptor,⁴ and the angiotensin II₆ receptor⁶), and that 2) the AT₂ notation replace the previous terminology (e.g., the type 2 angiotensin II receptor,¹,² the type A angiotensin II receptor,⁴ and the angiotensin II₆ receptor⁶).

References

Key Words • nomenclature • angiotensin II • angiotensin receptors
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