

Reference list

last update: 2018-03-25

* Includes relevant publications on AT2 receptor platform, C21 original publications and reviews		
* C21 publications marked in pink		
AT2 receptor reviews:		
Steckelings et al	Centrally Mediated Cardiovascular Actions of the Angiotensin II Type 2 Receptor.	Trends Endocrinol Metab. 2017 Sep;28(9):684-693
Hallberg et al.	Small-molecule AT2 receptor agonists.	Med Res Rev. 2018 Mar;38(2):602-624
De Kloet et al	Protective Angiotensin Type 2 Receptors in the Brain and Hypertension.	Curr Hypertens Rep. 2017 Jun;19(6):46. doi: 10.1007/s11906-017-0746-x
Carey RM	Update on angiotensin AT2 receptors	Curr Opin Nephrol Hypertens. 2017 Mar;26(2):91-96. doi: 10.1097/MNH.0000000000000304
Chow and Allen et al	Angiotensin II type 2 receptor (AT2R) in renal and cardiovascular disease	Clin Sci (Lond). 2016 Aug 1;130(15):1307-26. doi: 10.1042/CS20160243
Chang KH, et al	Vasculopathy-associated hyperangiotensinemia mobilizes haematopoietic stem cells/progenitors through endothelial AT2R and cytoskeletal dysregulation.	Nat Commun. 2015 Jan 9;6:5914. doi: 10.1038/ncomms6914. PMID: 25574809
Zhao Y et al	Activation of intracellular angiotensin AT2 receptors induces rapid cell death in human uterine leiomyosarcoma cells.	Clin Sci (Lond). 2015 May;128(9):567-78. doi: 10.1042/CS20140627. PMID: 25487516
Guimond MO et al	Saralasin and Sarile Are AT2 Receptor Agonists.	ACS Med Chem Lett. 2014 Aug 18;5(10):1129-32. doi: 10.1021/ml500278g. eCollection 2014 Oct 9. PMID: 25313325 [PubMed]
Leblanc S, et al	Angiotensin II type 2 receptor stimulation improves fatty acid ovarian uptake and hyperandrogenemia in an obese rat model of polycystic ovary syndrome.	Endocrinology. 2014 Sep;155(9):3684-93. doi: 10.1210/en.2014-1185. Epub 2014 Jun 27. PMID: 24971613 [PubMed - indexed for MEDLINE]
Balia C, et al	Compound 21, a selective angiotensin II type 2 receptor agonist, downregulates lipopolysaccharide-stimulated tissue factor expression in human peripheral blood mononuclear cells.	Blood Coagul Fibrinolysis. 2014 Jul;25(5):501-6. doi: 10.1097/MBC.0000000000000092. PMID: 24914880 [PubMed - in process]
Guimond MO et al	Expression and Role of the Angiotensin II AT2 Receptor in Human Prostate Tissue: In Search of a New Therapeutic Option for Prostate Cancer	Prostate 2013, DOI:10.1002/pros.22653
Leonhardt et al	Evidence for functional interaction between the AT2-receptor and the receptor mas	Jrnl of Hypertension Vol 31e-Supplement A, June 2013. Abstract 7D.01, page e107
Foulquier S et al	Perspective: A tale of two receptors	Nature Communications, 2013:493 S9
Mogi et al	Roles of Brain Angiotensin II in Cognitive Function and Dementia	Hypertension, Vol 2012; 7 pages doi: 10.1155/2012/169649
Steckelings et al	AT2 receptor agonists: hypertension and beyond.	Curr Opin Nephrol Hypert, 2012; 21: 142-146
Murugaish et al	From the first selective non-peptide AT(2) receptor agonist to structurally related antagonists	J Med Chem, 2012; 55: 2265-2278
Verdonk et al	Angiotensin II type 2 receptor agonists--where should they be applied?	Expert Opin Emerg Drugs, 2012; 21: 763-766
Bosnyak et al	Relative affinity of angiotensin peptides and novel ligands at AT1 and AT2 receptors	Clin Sci, 2011; 121: 297-303
Mogi et al	New antihypertensive drugs including angiotensin II type 2 receptor agonist - ARTICLE IN JAPANESE	NNKZ, 2011; 100: 432-440
Steckelings et al	Non-peptide AT2-receptor agonists	Cur Opinion Pharma, 2011; 11: 187-192
Funke-Kaiser et al	Adapter proteins and promoter regulation of the angiotensin AT2 receptor – implications for cardiac pathophysiology	JRAAS, 2010; 11; 7-17
Tamargo et al	Novel therapeutic targets for the treatment of heart failure	NRDD, 2010;10: 536-555 (544 has AT2 info)
Unger T and Dahlöf B	Compound 21, the first orally active, selective agonist of the angiotensin type 2 receptor (AT2): implications for AT2 receptor research and therapeutic potential	JRAAS, 2010; 11: 75-77
Rompe et al	The angiotensin AT2 receptor in inflammation	Drug News & Perspectives, 2010; 23: 104-111
Åberg et al	Synthesis and evaluation of a 11C-labelled angiotensin II AT2 receptor ligand	JLCR, 2010;53; 616-624
Siragy HM	Angiotensin II subtype 2 receptor: potential therapy	J Clin Hypertens, 2009;11: 26-29
Steckelings et al	The past, present and future of angiotensin II type 2 receptor stimulation	JRAAS, 2009;11: 67-73
Coleman CG et al	Angiotensin II type 2 (AT2) receptors have a major somatodendritic distribution in vasopressin-containing neurons in the mouse hypothalamic paraventricular nucleus	Neuroscience, 2009 Sept 29; 129-142
Brillante DG et al	Arterial stiffness and haemodynamic response to vasoactive medication in subjects with insulin-resistance syndrome	Clinical Science, 2008; 114: 139-147
Georgsson et al	Synthesis of a new class of druglike angiotensin II c-terminal mimics with affinity for the AT2 receptor	J. Med. Chem, 2007;50: 1711-1715
Wu et al	Selective angiotensin II AT2 receptor agonists: arylbenzimidazole structure-activity relationships	J Med Chem, 2006; 4: 7160-7168
Steckelings et al	Differential expression of angiotensin receptors in human cutaneous wound healing	British Jrnl of Dermatology, 2005;153: 887-893
Rosenström et al	New selective AT2 receptor ligands encompassing a gamma-turn mimetic replacing the amino acid residues 4-5 of angiotensin II act as agonists	J Med Chem, 2005; 48: 4009-4024
Georgsson et al	Angiotensin II pseudopeptides containing 1,3,5-trisubstituted benzene scaffolds with high AT2 receptor affinity	J Med Chem, 2005; 48: 6620-6631

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Horiuchi M, et al	Recent progress in angiotensin II type 2 receptor research in the cardiovascular system	Hypertension, 1999; 33: 613-621
Hein L et al	Intracellular trafficking of angiotensin II and its AT1 and AT2 receptors: evidence for selective sorting of receptor and ligand	Molecular Endocrinology 1997;11: 1266-1277
Hein L et al	Behavioural and cardiovascular effects of disrupting the angiotensin	Nature, 1995; 377
Mukoyama M, et al	Expression cloning of type 2 angiotensin II receptor reveals a unique class of seven-transmembrane receptors	The Journal of Biological Chemistry, 1993; 268 No 33; 24539-24542
Pulmonary Fibrosis and Hypertension		
Bruce et al	Selective Activation of At2 Receptor Attenuates Progression of Pulmonary Hypertension and Inhibits Cardiopulmonary Fibrosis.	Br J Pharmacol. 2015 May;172(9):2219-31. doi: 10.1111/bph.13044. Epub 2015 Feb 27.
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Fibrotic diseases		
Wang et al	Anti-fibrotic potential of AT2 receptor agonists	Frontiers in Pharmacology. August 2017; Vol 8. Art 564
Chrisholm et al	Effect of Compound 21, a Selective Angiotensin II Type 2 Receptor Agonist, in a Murine Xenograft Model of Dupuytren Disease.	Plast Reconstr Surg. 2017 Nov;140(5):686e-696e. doi: 10.1097/PRS.0000000000003800.
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Peluso et al.	Identification of protein phosphatase involvement in the AT2-receptor induced activation of endothelial nitric oxide synthase.	Clin Sci (Lond). 2018 Mar 14. pii: CS20171598. doi: 10.1042/CS20171598. [Epub ahead of print]
Verbrugge et al.	The Effect of a Non-peptide Angiotensin II type 2 receptor Agonist, Compound 21, on Aortic Aneurysm Growth in a Mouse Model of Marfan Syndrome.	J Cardiovasc Pharmacol. 2018 Jan 3. doi: 10.1097/FJC.0000000000000560. [Epub ahead of print]
Sampson et al	Compound 21, a selective agonist of angiotensin AT2 receptors, prevents endothelial inflammation and leukocyte adhesion in vitro and in vivo	Br J Pharmacol. 2016 Feb;173(4):729-40. doi: 10.1111/bph.13063. Epub 2015 Jun 29
Caillon et al	The angiotensin II type 2 receptor activates flow-mediated outward remodelling through T cells-dependent interleukin-17 production.	Cardiovasc Res. 2016 Oct;112(1):515-25. doi: 10.1093/cvr/cvw172. Epub 2016 Jun 21
Carey	AT2 Receptors: Potential Therapeutic Targets for Hypertension With Activation of PPARγ	
Kukida et al	Angiotensin II Type 2 Receptor Inhibits Vascular Intimal Proliferation With Activation of PPARγ	Am J Hypertens. 2016 Jun;29(6):727-36. doi: 10.1093/ajh/hpv168. Epub 2015 Oct 15
Dai SY et al	Central Infusion of Angiotensin II Type 2 Receptor Agonist Compound 21 Attenuates DOCA/NaCl-Induced Hypertension in Female Rats	Oxidative Medicine and Cellular Longevity Volume 2016 (2016), Article ID 3981790, 9 pages
Kemp BA et al	AT2 Receptor Activation Prevents Sodium Retention and Reduces Blood Pressure in Angiotensin II-Dependent Hypertension	Circ Res. 2016 Aug 5;119(4):532-43. doi: 10.1161/CIRCRESAHA.116.308384. Epub 2016 Jun
Nakaoka, et al	Interferon regulatory factor 1 attenuates vascular remodeling; roles of angiotensin II type 2 receptor	J Am Soc Hypertens. 2016 Oct;10(10):811-818. doi: 10.1016/j.jash.2016.07.005. Epub 2016 Aug 4.
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Rehman et al	Angiotensin type 2 receptor agonist compound 21 reduces vascular injury and myocardial fibrosis in stroke-prone spontaneously hypertensive rats	Hypertension, 2012; 59: 291-299
Verdonk et al	Compound 21 Induces Vasorelaxation via an Endothelium- and Angiotensin II Type 2 Receptor-Independent Mechanism	Hypertension, 2012; 60: 722-729
Paulis L et al	Direct angiotensin II type 2 receptor stimulation in Nw-nitro-L-arginine-methyl ester-induced hypertension:the effect on pulse wave velocity and aortic remodeling	Hypertension 2012 feb;59(2):485-92
Jones et al	A single beta-amino acid substitution to angiotensin II confers AT2 receptor selectivity and vascular function	Hypertension, 2011; 57: 570-576
Habashi J et al	Angiotensin II type 2 receptor signaling attenuates aortic aneurysm in mice through ERK antagonism	Science, 2011 april 15; 332(6027):361-365
Yang et al	Pressor and renal hemodynamic effects of the novel angiotensin A peptide are angiotensin II type 1A receptor dependent	Hypertension, 2011;57: 956-964
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Bosnyak et al	Stimulation of angiotensin AT2 receptors by the non-peptide agonist, Compound 21, evokes vasodepressor effects in conscious spontaneously hypertensive rats.	BJP 2010;159: 709-716
Johansson ME et al	Angiotensin type 2 receptor is expressed in human atherosclerotic	JRAAS, 2008; 9 nr1
Savoia C et al	Angiotensin type 2 receptor in resistance arteries of type 2 diabetic hypertensive patients	Hypertension, 2007;49:341-346
Sales VL et al	Angiotensin type 2 receptor is expressed in murine atherosclerotic lesions and modulates lesion evolution	Circulation, 2005;112:3328-3336

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Stoll M et al	The angiotensin AT2 receptor mediates inhibition of cell proliferation in coronary endothelial cells	J Clin Invest, 1995; 95: 651-657
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De Kloet et al	Angiotensin Type-2 Receptors Influence the Activity of Vasopressin Neurons	Endocrinology. 2016 Aug;157(8):3167-80. doi: 10.1210/en.2016-1131.
Gallego-Delgado et al	Angiotensin receptors and β-catenin regulate brain endothelial integrity in malaria	J Clin Invest. 2016 Oct 3;126(10):4016-4029. doi: 10.1172/JCI87306. Epub 2016 Sep 19.
Iwanami J, et al	Direct angiotensin II type 2 receptor stimulation by compound 21 prevents vascular dementia.	J Am Soc Hypertens. 2015 Apr;9(4):250-6. doi: 10.1016/j.jash.2015.01.010. Epub 2015 Jan 24.
Füchtmeier M et al.	Vascular change and opposing effects of the angiotensin type 2 receptor in a mouse model of vascular cognitive impairment. Füchtmeier M et al.	J Cereb Blood Flow Metab. 2015 Mar;35(3):476-84. doi: 10.1038/jcbfm.2014.221. Epub 2014 Dec 10
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Min L-J et al.	Direct Stimulation of Angiotensin II Type 2 Receptor Initiated After Stroke Ameliorates Ischemic Brain Damage	Am J Hypertens. 2014; 27(8):1036-1044
Valero-Esquitino V et al.	Direct angiotensin AT2-receptor stimulation attenuates T-cell and microglia activation and prevents demyelination in experimental autoimmune encephalomyelitis in mice	Clinical Science 214,doi 10.1042/CS20130601
Sumners et al	Protective arms of the renin-angiotensin-system in neurological disease	Clin Exp Pharmacol Physiol. 2013 Aug;40(8):580-8. doi: 10.1111/1440-1681.12137.
Mogi et al	Abstract WP113: Administration of Direct Angiotensin II Type-2 Receptor Agonist, Compound 21, Even After Stroke Prevents Ischemic Brain Damage	Stroke, 2013; 44:AWP113
Mogi et al	Effect of angiotensin II type 2 receptor on stroke, cognitive impairment and neurodegenerative diseases	Geriatr Gerontol Int 2013; 13: 13–18
Mogi et al	Roles of Brain Angiotensin II in Cognitive Function and Dementia	Hypertension, Vol 2012; 7 pages doi: 10.1155/2012/169649
Namsolleck et al	AT2-receptor stimulation enhances axonal plasticity after spinal cord injury by upregulating BDNF expression	Neurobiology of Disease (2012), doi:10.1016/j.nbd.2012.11.008
Gallo-Payet et al	Angiotensin II, a Neuropeptide at the frontier between Endocrinology and Neuroscience: Is there a link between the Angiotensin II Type 2 receptor and Alzheimers disease?	10.1016/j.nbd.2012.11.008
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Gao et al	Activation of central Angiotensin type 2 receptors suppresses norepinephrine excretion and blood pressure in conscious rats	Am J Hypertens, 2011; 24: 724-730
Gao et al	AT2 receptor signaling and sympathetic regulation	Curr Op Pharma, 2011; 11: 124-130
Shraim et al	Microbore liquid chromatography with UV detection to study the in vivo passage of compound 21, a non-peptidergic AT2 receptor agonist, to the striatum in rats	J Neurosci Methods, 2011; 202: 137-142
Namsolleck et al	Selective AT2-receptor stimulation promotes neuroregeneration and improves functional outcome in an animal model of spinal injury	J Hypertens, 2010; 28 e540 33: 299
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Mertens et al	The role of the central renin-angiotensin system in Parkinson's disease	JRAAS, 2010; 11: 49-56
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Ahmed et al	Role of angiotensin system modulation on progression of cognitive impairment and brain MRI changes in aged hypertensive animals - A randomized double-blind pre-clinical study.	Behav Brain Res. 2018 Jul 2;346:29-40
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Florez-Munoz et al	Renin angiotensin aldosterone system; Angiotensin-(1-9) attenuates cardiac fibrosis in the stroke-prone spontaneously hypertensive rat via the angiotensin type 2 receptor	Hypertension. 2012;59:300-307
Jehle et al	A nonpeptide angiotensin II type 2 receptor agonist does not attenuate postmyocardial infarction left ventricular remodeling in mice	J Cardiovasc Pharmacol. 2012; 59: 363-368
Dell'Italia et al	Translational success stories: Angiotensin receptor 1 antagonists in heart failure	Circulation research. 2011;109:437-452
Moltzer et al	The role of the renin-angiotensin system in thoracic aortic aneurysms: Clinical implications	Pharma Ther. 2011; 131: 50-60
Curato et al	Identification of noncytotoxic and IL-10-producing CD8+AT2R+ T cell population in response to ischemic heart injury	J Immunol. 2010; 185: 6286-6293
Simko et al	Remodelling of the heart and vessels in experimental hypertension: advances in protection	J Hypertens. 2010; 28: S1-S6
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Shao et al	Angiotensin Type 2 Receptor in Pancreatic 1 Islets of Adult Rats: A Novel Insulinotropic Mediator	Am J Physiol Endocrinol Metab (Oct 1, 2013)
Ali et al	AT2 receptor activation prevents high sodium-induced increase in blood pressure and insulin resistance in obese rats	Abstract, HBPR 2013
A Khan et al	Chronic treatment with AT2 receptor agonist rescues high fat diet-induced obesity in female mice	Hypertension. 2012; Vol 60;Issue 3:75
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Savoia C et al	Improved Angiotensin II type 2 receptor expression and function in transglutaminase 2 knock-out mice treated with Angiotensin II	Abstract, HBPR 2013
Yap et al	Association and Interaction Effect of AGTR1 and AGTR2 Gene Polymorphisms with Dietary Pattern on Metabolic Risk Factors of Cardiovascular Disease in Malaysian Adults.	Nutrients. 2017 Aug 9;9(8). pii: E853. doi: 10.3390/nu9080853
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Alfakih K et al	Effect of a common X-linked angiotensin II type 2-receptor gene polymorphism (-1332G/A) on the occurrence of premature myocardial infarction and stenotic atherosclerosis requiring revascularization	Atherosclerosis, 2007; 195: 32-e38

Alfakih K et al	Left ventricle mass index and the common, functional, x-linked angiotensin II type-2 receptor gene polymorphism (-1332 G/A) in patients with systemic hypertension	Hypertension. 2004; 43:1189-1194
Schmieder RE et al	effect of the angiotensin II type 2-receptor gene (+1675 G/A) on left ventricular structure in humans	JACC 2001; 37
GI mechanisms:		
Fändriks	The angiotensin II type 2 receptor and the gastrointestinal tract	JRAAS, 2011; 11:43-48
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Casselbrant et al	Angiotensin II receptors are expressed and functional in human esophageal mucosa	Am. J. Physiol. Gastrointest. Liver Physiol. 2009; 297:1019- 1027
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Casselbrant et al	Angiotensin II exerts dual actions on sodium-glucose transporter 1-mediated transport in the human jejunal mucosa	Scand J Gastroenterol. 2015;50(9):1068-75. doi: 10.3109/00365521.2015.1019557. Epub 2015 Apr 10 eCollection 2016.
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Dhande I, et al	Angiotensin AT2 receptor stimulation is anti-inflammatory in lipopolysaccharide-activated THP-1 macrophages via increased interleukin-10 production.	Hypertens Res. 2015 Jan;38(1):21-9. doi: 10.1038/hr.2014.132. Epub 2014 Sep 11. PMID: 25209104
Sampson	AT2R Stimulation prevents TNFα-Induced vascular inflammation in Vitro and Ex Vivo	Abstract, HBPR 2013
Matavelli et al	Angiotensin AT2 receptor stimulation inhibits early renal inflammation in renovascular hypertension	Hypertension, 2011; 57: 308-313
Rompe et al	Direct angiotensin II type 2 receptor stimulation acts anti-inflammatory through epoxyeicosatrienoic acid and inhibition of nuclear factor kappaB	Hypertension, 2010; 55: 924-931
Rompe et al	The angiotensin AT2 receptor in inflammation	DNP, 2010; 23: 104-111
Stem Cells		
Chang KH, et al	Vasculopathy-associated hyperangiotensinemia mobilizes haematopoietic stem cells/progenitors through endothelial AT2R and cytoskeletal dysregulation.	Nat Commun. 2015 Jan 9;6:5914. doi: 10.1038/ncomms6914. PMID: 25574809
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