Research output

Adrenoceptors—New roles for old players

BRL37344 stimulates GLUT4 translocation and glucose uptake in skeletal muscle via β2-adrenoceptors without causing classical receptor desensitization

Drug-receptor kinetics and sigma-1 receptor affinity differentiate clinically evaluated histamine H3 receptor antagonists

Divergent effects of strontium and calcium-sensing receptor positive allosteric modulators (calcimimetics) on human osteoclast activity

Molecular pharmacology of GPCRs

Rosiglitazone and a β3-adrenoceptor agonist are both required for functional browning of white adipocytes in culture

Comparative genotypic and phenotypic analysis of human peripheral blood monocytes and surrogate monocyte-like cell lines commonly used in metabolic disease research

INSL5 activates multiple signalling pathways and regulates GLP-1 secretion in NCI-H716 cells

α1A-Adrenoceptors activate mTOR signalling and glucose uptake in cardiomyocytes

G protein–coupled receptors targeting insulin resistance, obesity, and type 2 diabetes mellitus

ML290 is a biased allosteric agonist at the relaxin receptor RXFP1

THE CONCISE GUIDE TO PHARMACOLOGY 2017/18: Overview
Structure-function analyses of a pertussis-like toxin from pathogenic Escherichia coli reveal a distinct mechanism of inhibition of trimeric G-proteins

Factors influencing biased agonism in recombinant cells expressing the human α1A-adrenoceptor

Signal transduction pathways activated by insulin-like peptide 5 at the relaxin family peptide RXFP4 receptor

The actions of relaxin on the human cardiovascular system

High throughput, quantitative analysis of human osteoclast differentiation and activity

Isoform-specific biased agonism of histamine H3 receptor agonists

The actions of relaxin family peptides on signal transduction pathways activated by the relaxin family peptide receptor RXFP4

Recent progress in the understanding of relaxin family peptides and their receptors

Molecular pharmacology of G protein-coupled receptors

Antifibrotic actions of Serelaxin: New roles for an old player

The C-terminus of the B-chain of human insulin-like peptide 5 is critical for cognate RXFP4 receptor activity

Engineering of a novel simplified human insulin-like peptide 5 agonist

Murine GPRC6A mediates cellular responses to L-amino acids, but not osteocalcin variants
A single-chain derivative of the relaxin hormone is a functionally selective agonist of the G protein-coupled receptor, RXFP1

Enhanced serelaxin signalling in co-cultures of human primary endothelial and smooth muscle cells

Orthosteric, allosteric and biased signalling at the relaxin-3 receptor RXFP3

International union of basic and clinical pharmacology, XCV. Recent advances in the understanding of the pharmacology and biological roles of relaxin family peptide receptors 1-4, the receptors for relaxin family peptides

Label-free kinetics: exploiting functional hemi-equilibrium to derive rate constants for muscarinic receptor antagonists

Serelaxin-mediated signal transduction in human vascular cells: bell-shaped concentration-response curves reflect differential coupling to G proteins

Improving type 2 diabetes through a distinct adrenergic signaling pathway involving mTORC2 that mediates glucose uptake in skeletal muscle

Relaxin requires the angiotensin II type 2 receptor to abrogate renal interstitial fibrosis

Response to Comment on Sato et al. Improving type 2 diabetes through a distinct adrenergic signaling pathway involving mTORC2 that mediates glucose uptake in skeletal muscle. Diabetes 2014;63:4115-4129

Signalling profiles of H3 relaxin, H2 relaxin and R3(B?23-27)R/I5 acting at the relaxin family peptide receptor 3 (RXFP3)

Themed issue of the British Journal of Pharmacology

Chronic activation of the low affinity site of beta -adrenoceptors stimulates haemodynamics but exacerbated pressure-overload cardiac remodelling
Orthosteric binding of rho-Da1a, a natural peptide of snake venom interacting selectively with the alpha(1A)-Adrenoceptor

Relaxin family peptides and their receptors

(beta)Adrenoceptor-mediated regulation of glucose uptake in skeletal muscle-ligand-directed signalling or a reflection of system complexity?

Beta(2)-adrenoceptors increase translocation of GLUT4 via GPCR kinase sites in the receptor C-terminal tail

Interaction with caveolin-1 modulates G protein coupling of the mouse beta3-adrenoceptor

Themed section: Molecular Pharmacology of G protein-coupled receptors

Quantification of functional selectivity at the human alpha1A-adrenoceptor (Molecular Pharmacology (2011) 79, (298-307))

Evolution of beta-blockers: from anti-anginal drugs to ligand-directed signalling

Modulation of the glucagon-like peptide-1 receptor signaling by naturally occurring and synthetic flavonoids

Quantification of functional selectivity at the human {alpha}1A-adrenoceptor

Role of beta-adrenoceptors in glucose uptake in astrocytes using beta-adrenoceptor knockout mice

alpha(2)-Adrenoceptors activate noradrenaline-mediated glycogen turnover in chick astrocytes

Allosteric ligands of the glucagon-like peptide 1 receptor (GLP-1R) differentially modulate endogenous and exogenous peptide responses in a pathway-selective manner: Implications for drug screening

Cardiovascular effects of relaxin: from basic science to clinical therapy
H2 relaxin is a biased ligand relative to H3 relaxin at the relaxin family peptide receptor 3 (RXFP3) [S]

Ligand-directed signalling at beta-adrenoceptors

Memory loss caused by beta-amyloid protein is rescued by a beta3-adrenoceptor agonist

Molecular pharmacology of G protein-coupled receptors: Editorial

Noradrenaline release in the locus coeruleus modulates memory formation and consolidation; roles for alpha- and beta-adrenergic receptors

The M3-muscarinic acetylcholine receptor stimulates glucose uptake in L6 skeletal muscle cells by a CaMKK-AMPK-dependent mechanism

Tissue functions mediated by beta3-adrenoceptors—Findings and challenges

Addition of a carboxy-terminal green fluorescent protein does not alter the binding and signaling properties of relaxin family peptide receptor 3

Importance of adrenergic receptors in prenatally induced cognitive impairment in the domestic chick

Investigations into the inhibitory effects of relaxin on renal myofibroblast differentiation

RXFP1 couples to the Galphai3-Gbetagamma-PI3K-PKCzeta pathway via the final 10 amino acids of the receptor C-terminal tail

Relaxin activates multiple cAMP signaling pathway profiles in different target cells

Relaxin family peptide receptor (RXFP1) coupling to Galphai3, involves the C-terminal Arg752 and localization within membrane raft microdomains
Relaxin inhibits renal myofibroblast differentiation via RXFP1, the nitric oxide pathway, and Smad2

Roles of the receptor, the ligand, and the cell in the signal transduction pathways utilized by the relaxin family peptide receptors 1-3

COMMENTARY: Atypical pharmacologies at beta-adrenoceptors

Energy metabolism and memory processing: Role of glucose transport and glycogen in responses to adrenoceptor activation in the chicken

Memory processing in the avian hippocampus involves interactions between beta-adrenoceptors, glutamate receptors, and metabolism

Regulation of AMP-activated protein kinase activity by G-protein coupled receptors: Potential utility in treatment of diabetes and heart disease

Relaxin family peptide receptors - from orphans to therapeutic targets

Role of beta-Adrenoceptors in Memory Consolidation: beta3-Adrenoceptors Act on Glucose Uptake and beta2-Adrenoceptors on Glycogenolysis


The rush to adrenaline: Drugs in sport acting on the beta-adrenergic system

Comparison of signaling pathways activated by the relaxin family peptide receptors, RXFP1 and RXFP2, using reporter genes

Functional domains of the mouse beta3-adrenoceptor associated with differential G-protein coupling

Ligand-directed signaling at the beta3-adrenoceptor produced by 3-(2-ethylphenoxy)-1-[(1S)-1,2,3,4-tetrahydropapth-1-ylamino]-2S-2-propanol oxalate (SRS9230A) relative to receptor agonists
Relaxin antagonizes hypertrophy and apoptosis in neonatal rat cardiomyocytes

Relaxin family peptide receptors - Former orphans reunite with their parent ligands to activate multiple signalling pathways

Relaxin receptors - new drug targets for multiple disease states

The relaxin family peptide receptor 3 activates extracellular signal-regulated kinase 1/2 through a protein kinase C-dependent mechanism

beta2- and beta3-Adrenoceptors activate glucose uptake in chick astrocytes by distinct mechanisms: A mechanism for memory enhancement?

'Relaxin' the stiffened heart and arteries: the therapeutic potential for relaxin in the treatment of cardiovascular disease

Agonist effects of zinterol at the mouse and human beta3-adrenoceptor

Differential G protein coupling of the relaxin family peptide receptors RXFP1 and RXFP2 is due to differences in the C-terminal tail

International union of pharmacology LVII: recommendations for the nomenclature of receptors for relaxin family peptides

Mechanisms of extracellular signal-regulated kinase (ERK) 1/2 phosphorylation following activation of relaxin family peptide receptor 3 (RXFP3) by human relaxin-3 (H3 relaxin)

Multiple signalling pathways involved in beta2-adrenoceptor-mediated glucose uptake in rat skeletal muscle cells

Relaxin family peptide receptors RXFP1 and RXFP2 modulate cAMP signaling by distinct mechanisms

The role of the C-terminal domain in mouse beta(3)-adrenoceptor signalling

The role of the C-terminal tail of the human beta(2)-adrenoceptor in stimulation of glucose uptake in CHO cells
Contrasting roles for beta1, beta2 and beta3-adrenoceptors in memory formation in the chick

Evidence for pleiotropic signaling at the mouse beta3-adrenoceptor revealed by SR59230A [3-(2-ethylphenoxy)-1-[(1,S)-1,2,3,4-tetrahydronapth-1-ylamino]-2S-2-propanol oxalate]

Functional domains of the mouse beta3-adrenoceptor associated with differential G-protein coupling

Identification of binding sites with differing affinity and potency for relaxin analogues on LGR7 and LGR8 receptors

Increased expression of the relaxin receptor (LGR7) in human endometrium during the secretory phase of the menstrual cycle

Multiple binding sites revealed by interaction of relaxin family peptides with native and chimeric relaxin family peptide receptors 1 and 2 (LGR7 and LGR8)

New Relaxin Peptides: Structure and Biological Function

New relaxin peptides: Structure and function

Receptors for relaxin family peptides

Responses of GPCR135 to human gene 3 (H3) relaxin in CHO-K1 cells determined by microphysiometry

Signal switching after stimulation of LGR7 receptors by human relaxin 2
**Signaling pathways of the LGR7 and LGR8 receptors determined by reporter genes**

**The Chemistry and Biology of Human Relaxin-3**

**The relaxin gene-knockout mouse: a model of progressive fibrosis**

**Adrenaline and noradrenaline**

**Increased expression of the relaxin receptor (LGR7) in human endometrium during the secretory phase of the menstrual cycle**

**Relaxin-1-deficient mice develop an age-related progression of renal fibrosis**

**Stereoselectivity for interactions of agonists and antagonists at mouse, rat and human 3-adrenoceptors**

**The Janus faces of adrenoceptors: factors controlling the coupling of adrenoceptors to multiple signal transduction pathways**

**Physiological or pathological - a role for relaxin in the cardiovascular system?**

**Relaxin deficiency in mice is associated with an age-related progression of pulmonary fibrosis**

**a2-adrenoceptors in the basal ganglia have a role in memory consolidation and reinforcement**
Characterization of the β-adrenoceptor subtype involved in mediation of glucose transport in L6 cells

Inotropic responses to human gene 2 (B29) relaxin in a rat model of myocardial infarction (MI): Effect of pertussis toxin

Mouse β3a and β3b-adrenoceptors expressed in Chinese hamster ovary cells display identical pharmacology but utilize distinct signalling pathways

Characterization of the β-adrenoceptor subtype involved in mediation of glucose transport in L6 cells

Effects of Glucose and 2-Deoxyglucose on Memory Formation in the Chick: Interaction with 3-Adrenoceptor Agonists

Human Relaxin Gene 3 (H3) and the Equivalent Mouse Relaxin (M3) Gene

Inotropic Responses to Human Gene 2 (B29) Relaxin in a Rat Model of Mocardial infarction (MI): effect of pertussis Toxin

Mouse 3a- and 3b- adrenoceptors expressed in Chinese hamster ovary cells display identical pharmacology but utilize distinct signalling pathways

Relaxin 3, a novel member of the insulin/relaxin superfamily of peptide hormones.

Relaxin-Like bioactivity of Ovine Insulin 3 (INSL3) Analogoegues

Role of Adrenoceptor Subtypes in Memory Consolidation

Structural requirements for the interaction of sheep insulin-like factor 3 with relaxin receptors in rat atria

Stimulation of α1-adrenoceptors inhibits memory consolidation in the chick

Synthesis, conformational studies and biological activity of Nα-mono-biotinylated rat relaxin
β1- and β3-adrenoceptor mediated smooth muscle relaxation in hypothyroid rat ileum

Enhancement of memory consolidation in chicks by β3-adrenoceptor agonists

The effects of human GH and its lipolytic fragment (AOD9604) on lipid metabolism following chronic treatment in obese mice and β3-AR knock-out mice

β1-adrenoceptors compensate for β3-adrenoceptors in ileum from β3-adrenoceptor knock-out mice

Enhancement of memory consolidation in chicks by b3-adrenoceptor agonists

Increase in fat oxidation and weight loss in obese mice caused by chronic treatment with human growth hormone or a modified C-terminal fragment

Stimulation of α1-adrenoceptors inhibits memory consolidation in the chick

Synthesis, conformational studies and biological activity of Na-mono-biotinylated rat relaxin

The effects of human GH and its lipolytic fragment (AOD9604) on lipid metabolism following chronic treatment in obese mice and b3 -AR knock-out mice

b1 - and b3 -adrenoceptor mediated smooth muscle relaxation in hypothyroid rat ileum

b1-Adrenoceptors compensate for b3-adrenoceptors in ileum from b3-adrenoceptor knock-out mice

Intracerebroventricular administration of the β3-adrenoceptor agonist CL 316243 causes Fos immunoreactivity in discrete regions of rat hypothalamus

β3-adrenoceptor regulation and relaxation responses in mouse ileum

Beta3-adrenoceptor regulation and relaxation responses in mouse ileum
Intracerebroventricular administration of the beta3-adrenoceptor agonist CL 316243 causes Fos immunoreactivity in discrete regions of rat hypothalamus

Lidocaine and surgical modification reduces mortality in a rat model of cardiac failure induced by coronary artery ligation

Novel strategy for the synthesis of template-assembled analogues of rat relaxin

Separate roles for Beta2- and Beta3-adrenoceptors in memory consolidation

Separate roles for β2- and β3-adrenoceptors in memory consolidation

βs-Adrenoceptors: Their role and regulation in the gastrointestinal tract

Alternative splicing generates two isoforms of the β3-adrenoceptor which are differentially expressed in mouse tissues

Characterization of β-adrenoceptor mediated smooth muscle relaxation and the detection of mRNA for β1-, β2- and β3- adrenoceptors in rat ileum

Functional analysis of desensitization of the β-adrenoceptor signalling pathway in rat cardiac tissues following chronic isoprenaline infusion

The role of the sympathetic nervous system in the regulation of leptin synthesis in C57BL/6 mice

Desensitization and resensitization of β1- and putative β4-adrenoceptor mediated responses occur in parallel in a rat model of cardiac failure

Desensitization of cardiac β-adrenoceptor signaling with heart failure produced by myocardial infarction in the rat.
Evidence for the role of Gi but not Gs or phosphorylating proteins


Actions of beta3-adrenoceptor agonists in memory consolidation
Alternative splicing generates two isoforms of the beta3-adrenoceptor which are differentially expressed in mouse tissues
7 p.

Beta-adrenoceptors

Characterization of beta-adrenoceptor mediated smooth muscle relaxation and the detection of mRNA for beta1- beta2- and beta3- adrenoceptors in rat ileum
13 p.

Characterization of ileal beta-adrenoceptor mediated responses in beta3-adrenoceptor knockout mice

Desensitisation and resensitisation of beta1- and putative beta4-adrenoceptor mediated responses occur in parallel in a rat model of cardiac failure

Desensitisation of cardiac beta-adrenoceptor signaling with heart failure produced by myocardial infarction in the rat. Evidence for the role of Gi but not Gs or phosphorylating proteins

Desensitisation of inotropic responses to human gene 2 (B29) relaxin in a rat model of congestive heart failure is enhanced by treatment with pertussis toxin

Functional analysis of desensitization of the beta-adrenoceptor signalling pathway in rat cardiac tissues following chronic isoprenaline infusion

Inotropic responses to human gene 2 (B29) relaxin are reduced in a rat model of myocardial infarction (MI)

Quantitative autoradiographic studies of relaxin binding in rat atria, uterus and cerebral cortex: characterization and effects of oestrogen treatment

Regulation of immediate early gene expression by the beta3-adrenoceptor agonist CL316243 in rat brain

Relaxin and relaxin-related peptides: synthesis, structure and biological function

Role of adrenoceptor subtypes in consolidation of memory by noradrenaline

Solid-phase synthesis of ovine Leydig cell insulin-like peptide - a putative ovine relaxin?
The role of thyroid hormone in regulation of beta adrenoceptor mediated relaxation of rat ileal smooth muscle

The search for a fourth beta-adrenoceptor

Towards defining the biologically active site of relaxin

The effects of the $\beta_3$-adrenoceptor agonist BRL 35135 on UCP isoform mRNA expression

Regulation of $\beta$-adrenoceptors in a rat model of cardiac failure: Effect of perindopril

Differential regulation of $\beta_3$-adrenoceptors in gut and adipose tissue of genetically obese (ob-ob) C57BL/6J-mice

Cyclic AMP accumulation in rat soleus muscle: Stimulation by $\beta_2$- but not $\beta_3$-adrenoceptors

Cardiac binding of $[^3H]$inositol 1,4,5-trisphosphate following chronic stimulation of cyclic AMP signalling in guinea pigs

$\beta_3$-Andrenoceptors: Differential regulation and novel subtypes

A single amino acid substitution confers relaxin-like activity in sheep leydig cell insulin-like peptide (LEY I-L)

Alternative splicing generates two isoforms of the $\beta_3$ -adrenoceptor which are differentially expressed in mouse tissues

Alternative splicing generates two isoforms of the mouse $\beta$-adrenoceptor

Alternative splicing generates two isoforms of the mouse $\beta_3$-adrenoceptor

$\beta_3$-adrenoceptors: differential regulations and novel subtypes

Binding characteristics of the relaxin receptor in rat brain

Cloning and expression of two isoforms of the $\beta_3$-adrenoceptor which are differentially expressed in mouse tissues
Comparison of b1 and putative b4-adrenoceptor (AR) mediated responses in a rat model of cardiac failure

Comparison of relaxin receptors in rat isolated atria and uterus by use of synthetic and native relaxin analogues

Differential regulation of b3-adrenoceptors (ARs) in mouse ileum and adipose tissues by the b3-AR agonist CL 316243 and the b3-AR antagonist SR 59230A

Generation of two isoforms of the mouse b3-adrenoceptor by alternative splicing

Ovine Leydig cell insulin-like peptide is not a sheep relaxin

Ovine Leydig cell insulin-like peptide: a sheep relaxin?

Reduced b-adrenoceptor (b-AR) function in a rat model of myocardial infarctions due to changes in G-protein mRNA

Regulation of b3-adrenoceptors (AR) by thyroid hormone in tissue cultures of rat ileal smooth muscle

The effects of the b3-adrenoceptor agonist BRL 35134 on UCP isoform mRNA expression

The pharmacology of relaxin and related peptides

The role of G-Proteins in reduced b-adrenoceptor (b-AR) function in a rat model of myocardial infarction (MI)

Functional and molecular evidence for b1-, b2- and b3-adrenoceptors in human colon
β-adrenoceptor subtypes and their desensitization mechanisms

Characterisation of relaxin binding in the rat brain

Examination of the relative contribution of b1-b2- and b3- adrenoceptor (AR) subtypes mediating smooth muscle relaxation in rat ileum

Reduced b adrenoceptor (b- AR) function in a rat model of myocardial infarction (MI) involves changes at the level of G - proteins

Chronic (-)-isoprenaline infusion down-regulates β1- and β2-adrenoceptors but does not transregulate muscarinic cholinooceptors in rat heart

Expression of β2-adrenoceptor mRNA in rat tissues

[3H]Forskolin binding to cardiac adenylate cyclase in guinea pigs chronically infused with isoproterenol

β-Adrenoceptor regulation and functional responses in the guinea-pig following chronic administration of the long-acting β Adrenoceptor agonist formoterol

Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists, 1994: SIGNALLING PATHWAYS IN CARDIAC FAILURE

Autoradiography of beta 1- and beta 2-adrenoceptors.

Characterization and localization of atypical β-adrenoceptors in rat ileum

Expression of β2-adrenoceptor mRNA in rat brain

Localisation and characterisation of atypical β-adrenoceptors in skeletal muscle and gut

β-Adrenoceptor regulation in rat heart, lung and skin after chronic treatment with (-)-tertatolol or (-)-propranolol
Excitatory amino acid projections to the nucleus of the solitary tract in the rat: a retrograde transport study utilizing d-[3H]aspartate and [3H]GABA

Regulation of β-adrenoceptors in the guinea-pig sinoatrial node

Autoradiographic Localization and Quantitation of β1- and β2-Adrenoceptors in the Human Atrioventricular Conducting System: A Comparison of Patients with Idiopathic Dilated Cardiomyopathy and Ischemic Heart Disease

Effect of chemical sympathectomy on (−)-isoprenaline-induced changes in cardiac β-adrenoceptor subtypes in the guinea-pig and rat

β-adrenoceptor subtypes in the atrioventricular conducting system and myocardium of spontaneously hypertensive rats:
Effects of angiotensin-converting enzyme inhibition by perindopril

Adrenoceptors and Their Second Messenger Systems

Cardiac effects of relaxin

Characterization of propranolol-resistant (−)[125I]-cyanopindolol binding sites in rat soleus muscle

Kakouris et al. reply

Relaxin: more than just a hormone of pregnancy

The mouse relaxin gene: Nucleotide sequence and expression

Cardiac effects of relaxin in rats

Localization of (−)[125I]-cyanopindolol binding in guinea-pig heart: characteristics of non-β-adrenoceptor related binding in cardiac pacemaker and conducting regions
Absence of mitochondrial β-adrenoceptors in guinea pig myocardium: Evidence for tissue disparity

Cimaterol reduces beta-adrenergic receptor density in rat skeletal muscles.

Regulation of guinea-pig cardiac β-adrenoceptor subtypes after (-)-adrenaline and (-)-noradrenaline treatment

Localization and characterization of two propranolol resistant (-) [125I]cyanopindolol binding sites in rat skeletal muscle

Autoradiographic localization and quantitation of β-adrenoceptor subtypes in the guinea-pig sinoatrial node

Characterization of β1- and β2-adrenoceptors in rat skeletal muscles

Characterization and high resolution autoradiographic localization of β-adrenoceptors in ventricular and conducting regions of guinea-pig heart

Differential regulation of β1- and β2-adrenoceptors in guinea-pig atrioventricular conducting system after chronic (-)-isoprenaline infusion

Localization and function of components of the β-adrenergic system in human and blood vessels

The autoradiographic localization of adenylate cyclase in rat kidney using [3H]forskolin

Antidepressant binding sites in brain: Autoradiographic comparison of [3H]paroxetine and [3H]imipramine localization and relationship to serotonin transporter

Densitometric analysis of β1- and β2-adrenoceptors in guinea-pig atrioventricular conducting system

Differential regulation of beta-1 and beta-2 adrenoceptors in guinea pig atrioventricular conducting system after chronic (-)-isoproterenol infusion

Effects of prolonged infusion of dopexamine on β1- and β2-adrenoceptors in guinea-pig myocardium
Excitatory amino acid projections to the periaqueductal gray in the rat: A retrograde transport study utilizing d[3H]aspartate and [3H]GABA

Regulation of β1-, β2-adrenoceptors and adenylate cyclase in guinea-pig heart after chronic (-)-isoprenaline infusion

SIMUL: an accurate method for the determination of receptor subtype proportions using a personal computer

Biochemical characterization of an autoradiographic method for studying excitatory amino acid receptors using [3H]glutamate

Bidirectional transport of NMDA receptor and ionophore in the vagus nerve

Coexistence and localization of β1- and β2-adrenoceptors in the human heart

FUNCTION, CHARACTERIZATION AND AUTORADIOGRAPHIC LOCALIZATION AND QUANTITATION OF β-ADRENOCEPTORS IN CARDIAC TISSUES

NEW TOOLS FOR THE LOCALIZATION OF SECOND MESSENGER SYSTEMS

New views of human cardiac β-adrenoceptors

Persistent β-adrenoceptor blockade with alkylating pindolol (BIM) in guinea-pig left atria and trachea

An autoradiographic study of muscarinic cholinoreceptors in blood vessels: no localization on vascular endothelium

Inhibition by CAMP of the phosphoinositide response to α1-adrenoceptor stimulation in rat kidney

Autoradiographic localization and densitometric analysis of beta-1 and beta-2 adrenoceptors in the canine left anterior descending coronary artery
Autoradiographic localization and function of β-adrenoceptors on the human internal mammary artery and saphenous vein

Reduced glutamate binding in rat dorsal vagal complex after nodose ganglionectiony

β-ADRENOCEPTORS IN CIRCULAR AND LONGITUDINAL MYOMETRIAL MEMBRANES AND IN LUNG MEMBRANES FROM DIOESTROUS AND POST-PARTUM GUINEA-PIGS

Autoradiographic localization and characterization of substance P binding in dog kidney

The distribution of β-adrenoceptors in dog kidney: an autoradiographic analysis

Autoradiographic localization of beta-1 and beta-2 adrenoceptors in guinea pig atrium and regions of the conducting system.

Characterization of beta-1 and beta-2 adrenoceptors in guinea pig atrium: functional and receptor binding studies.

Autoradiographic analysis of receptors on vascular endothelium

AUTORADIOGRAPHIC LOCALIZATION OF RECEPTORS IN THE MAMMALIAN CARDIOVASCULAR SYSTEM

Autoradiographic localization of receptors in the cardiovascular system

CHARACTERIZATION AND LOCALIZATION OF [(—)-[125I]CYANOPINDOLOL BINDING TO NON-β-ADRENOCEPTOR SITES IN DOG KIDNEY

Characterization and autoradiographic localization of β-adrenoceptor subtypes in human cardiac tissues

Excitatory amino acid projections to the nucleus accumbens septi in the rat: A retrograde transport study utilizing d3Hjaspartate and [3H]GABA
Stimulation of α1-adrenoceptors in rat kidney mediates increased inositol phospholipid hydrolysis

Autoradiographic demonstration of endothelium-dependent 125I-Bolton-Hunter substance P binding to dog carotid artery

The characteristics of low and high affinity [3H]-prazosin binding to membranes from rat renal cortex

AUTORADIOGRAPHIC ANALYSIS OF (−)-[125I]-CYP BINDING IN MOUSE KIDNEY

AUTORADIOGRAPHIC EVIDENCE FOR A HETEROGENEOUS DISTRIBUTION OF α1-ADRENORECEPTORS LABELLED BY [3H] PRAZOSIN IN RAT, DOG AND HUMAN KIDNEY

Autoradiographic analysis of the distribution of β-adrenoceptors in the dog splenic vasculature

Changes in the innervation and catecholamine concentrations in the myometrium of pregnant and non-pregnant sheep

THE INFLUENCE OF AGE AND SEX ON CARDIAC, RENAL AND CAUDAL ARTERY CATECHOLAMINE CONTENT IN SPONTANEOUSLY HYPERTENSIVE (SHR) AND WISTAR KYOTO (WKY) RATS

Light microscopic autoradiography of the distribution of [3H]rauwolscine binding to α2-adrenoceptors in rat kidney

Localization of β-adrenoceptors in the rabbit ear by light microscopic autoradiography

Changes in brainstem and spinal adrenoceptor binding with ageing in spontaneously hypertensive and Wistar-Kyoto rats

Autoradiographic localization of β-adrenoceptor subtypes in guinea-pig kidney

Localization of beta adrenoceptor subtypes in rat kidney by light microscopic autoradiography

The measurement of central noradrenergic activity in spontaneously hypertensive rats: A comparison of free 3,4-dihydroxyphenylethylenglycol levels with FLA-63 induced noradrenaline depletion

[3H]rauwolscine binding to α2-adrenoceptors in the mammalian kidney: apparent receptor heterogeneity between species
α2-adrenoceptors in dog kidney: Autoradiographic localization and putative functions

Renal α adrenoceptors

Age related changes of catecholamines and their metabolites in central nervous system regions of spontaneously hypertensive (SHR) and normotensive wistar-Kyoto (WK) rats:
Howes, L. G., Rowe, P. R., Summers, R. J. & Louis, W. J., 1 Jan 1984, In : Clinical and Experimental Hypertension. 6, 12, p. 2263-2277 15 p.

Assay of brain 3,4-dihydroxyphenylethylene glycol (DHPG) levels by high-performance liquid chromatography with electrochemical detection. Factors affecting stability during sample preparation

Autoradiographic localization of adrenoceptors in peripheral tissues

Effects of Methyldopa Metabolites on Amine Transmitters and Adrenergic Receptors in Rat Brain

The involvement of central alpha adrenoceptors in the antihypertensive actions of methyldopa and clonidine in the rat

Time course of sympathetic denervation of the rat ovary after freezing its nerve supply

Effects of yohimbine stereoisomers on contractions of rat aortic strips produced by agonists with different selectivity for α1- and α2-adrenoceptors

The characteristics of adrenoceptors in homogenates of human cerebral cortex labelled by (3H)-rauwolscine

The simultaneous determination of 3,4-dihydroxyphenylethylene glycol, 3,4-dihydroxyphenylacetic acid and catecholamines in brain tissue by high performance liquid chromatography with electrochemical detection

Autoradiographic localization of β-adrenoceptors in rat kidney

Evidence from binding studies for β1-adrenoceptors associated with glomeruli isolated from rat kidney

Evidence from binding studies for α2-adrenoceptors directly associated with glomeruli from rat kidney

Age related changes of noradrenaline content in brain regions of spontaneously hypertensive (SHR) and normotensive wistar-Kyoto (WK) rats

**Characterization of central α-adrenoceptors using ³H-clonidine and its derivatives**

**Characterization of postsynaptic α-adrenoceptors in rat aortic strips and portal veins**

**β-Adrenoceptor subtypes in the kidney**

**The relationship between α₂-adrenoceptor selectivity and anticonvulsant effect in a series of clonidine-like drugs**

**Localisation of [³H]clonidine binding to membranes from guinea pig renal tubules**

**Anticonvulsant effects of clonidine mediated through central α₂-adrenoceptors**

**A STUDY OF α₁-ADRENOCEPTORS IN RAT RENAL CORTEX: COMPARISON OF [³H]-PRAZOSIN BINDING WITH THE α₁-ADRENOCEPTOR MODULATING GLUCONEOGENESIS UNDER PHYSIOLOGICAL CONDITIONS**

**Anticonvulsant effects of clonidine on pentylenetetrazol (PTZ)-induced convulsions in rats**

**Comparison of α-adrenoreceptors in aortic strips and portal veins of the rat**
Digges, K. G. & Summers, R. J., 1 Jan 1982, In : Clinical and Experimental Pharmacology and Physiology. 9, 4, 1 p.

**Correlation between [³H]-prazosin binding and α₁-adrenoceptors controlling gluconeogenesis in the rat renal cortex**

**Enhancement of pentylenetetrazol (PTZ) induced convulsions following clonidine withdrawal in rats**

**New developments in α-adrenoceptor drugs for the treatment of hypertension**

**ROLE OF CENTRAL β-ADRENOCEPTORS IN THE CONTROL OF PENTYLENETETRAZOL-INDUCED CONVULSIONS IN RATS**
Radioligand studies of α-adrenoceptors in the kidney

Relationship between α-adrenoceptor selectivity and anticonvulsant activity after chronic clonidine-like drugs in rats

Role of central α₂ adrenoceptors in control of pentylenetetrazol (PTZ) induced convulsions in rats

Role of central β₂-adrenoceptors in the control of pentylenetetrazol-induced convulsions in rats

Role of β-adrenoceptors in the anticonvulsant effect of propranolol on leptazol-induced convulsions in rats

The relationship between α₂-adrenoceptor selectivity and anticonvulsant effect in a series of clonidine-like drugs

[^3H]-GUANFACINE: A RADIOLIGAND THAT SELECTIVELY LABELS HIGH AFFINITY α₂-ADRENOCEPTOR SITES IN HOMOGENATES OF RAT BRAIN

Comparison of[^3H]clonidine and[^3H]guanfacine binding to α₂ adrenoceptors in membranes from rat cerebral cortex

Inhibition of phenylephrine-stimulated gluconeogenesis by chlorpromazine is mediated by α-adrenergic receptors

Alpha-adrenoceptors in rat kidney studied by[^3H]clonidine and[^3H]prazosin binding
Summers, R. J. & McPherson, G. A., 1 Jan 1981, In : Clinical and Experimental Pharmacology and Physiology. 8, 6

Evidence for heterogeneity of post-junctional α-adrenoceptors from studies in guinea pig capsular splenic smooth muscle
McPherson, G. A. & Summers, R. J., 1 Jan 1981, In : Clinical and Experimental Pharmacology and Physiology. 8, 6

Labeling of α₂-adrenoceptors in rat cerebral cortex with[^3H]guanfacine
Summers, R. J., Jarrott, B. & Louis, W. J., 1 Jan 1981, In : Clinical and Experimental Pharmacology and Physiology. 8, 6

PHARMACOLOGICAL INVESTIGATION OF α-ADRENORECEPTORS IN GUINEA-PIG SPLENIC CAPSULE

[^3H]Prazosin and[^3H]clonidine binding to α-adrenoceptors in membranes prepared from regions of rat kidney

Characterization of α-adrenoceptors in rat and guinea pig tissues using radiolabeled agonists and antagonists
A sensitive method for measurement of catecholamines and their metabolites in extracts of small brain areas
Rowe, P. R., Summers, R. J. & Beart, P. M., 1 Jan 1980, In : Clinical and Experimental Pharmacology and Physiology. 7, 6, p. 674-675 2 p.

Are radioligand assays useful for identification and characterization of prejunctional receptors

Characterization of (3H)clonidine binding sites in membranes prepared from guinea pig

Displacement of (3H)clonidine binding by clonidine analogues in membranes from rat cerebral cortex

Localization of (3H)clonidine binding sites in membranes prepared from guinea pig renal cortex

Selectivity of a series of clonidine-like drugs for α1 and α2 adrenoceptors in rat brain

[3H]-CLONIDINE BINDING TO α-ADRENOCEPTORS IN MEMBRANES PREPARED FROM REGIONS OF GUINEA-PIG KIDNEY: ALTERATION BY MONOVALENT AND DIVALENT CATIONS

The actions of the β-adrenoceptor blocking agents propranolol and metoprolol in the maximally exercised horse

INVESTIGATION OF THE ROLE OF CALCIUM IN THE SUPER-SENSITIVITY PRODUCED BY COCAINE IN CAT SPLEEN STRIPS

Interaction of clonidine metabolites with an α-adrenoceptor in rat brain membranes
Jarrott, B., Louis, W. J. & Summers, R. J., 1 Jan 1979, In : Clinical and Experimental Pharmacology and Physiology. 6, 6, 1 p.

THE CHARACTERISTICS OF [3H]-CLONIDINE BINDING TO ANα-ADRENOCEPTOR IN MEMBRANES FROM GUINEA-PIG KIDNEY


The effect of a series of clonidine analogues on [3H] clonidine binding in rat cerebral cortex

Localisation of (3H)-clonidine binding in guinea pig kidney
Jarrott, B. & Summers, R. J., 1 Jan 1978, In : British Journal of Pharmacology. 64, 3
THE EFFECTS OF PIPEROXAN ON UPTAKE OF NORADRENALINE AND OVERFLOW OF TRANSMITTER IN THE ISOLATED BLOOD PERFUSED SPLEEN OF THE CAT

The pharmacology of labetalol, an α- and β-adrenoceptor blocking agent

The actions of the β adrenoceptor blocking agents propranolol and metoprolol in the maximally exercised horse

The effects of labetalol (AH 5158) on metabolism of 3H(-)noradrenaline released from the cat spleen by nerve stimulation

THE EFFECTS OF LABETALOL (AH 5158) ON ADRENERGIC TRANSMISSION IN THE CAT SPLEEN

The effects of L9394 on adrenergic transmission in the cat spleen
Baco, Z. M., Blakeley, A. G. H. & Summers, R. J., 1 Jan 1977, In : British Journal of Pharmacology. 60, 2

The effects of AH 5158 on metabolism of 3H(-)noradrenaline released from the cat spleen by nerve stimulation
Summers, R. J. & Tillman, J., 1 Dec 1976, In : British Journal of Pharmacology. 58, 2

The effects of amiodarone, an α and β receptor antagonist, on adrenergic transmission in the cat spleen

The effects of AH 5158 on the overflow of transmitter and the uptake of [3H](-) noradrenaline in the cat spleen
Blakeley, A. G. H. & Summers, R. J., 1 Jan 1976, In : British Journal of Pharmacology. 56, 3

Aspects of the physiology and pharmacology of adrenergic transmission in the cat's spleen

The effects of amiodarone (L 3428), an α and β receptor antagonist, on overflow of transmitter and uptake of noradrenaline in the cat spleen

An uptake mechanism for L-noradrenaline in the cat spleen, associated with the nerves but distinct from uptake1

The effect of monoamine oxidase inhibitors on the rectal temperature of the rat

Some characteristics of the uptake process in the isolated blood perfused cat spleen resistant to desmethylimipramine and 17 β oestradiol

An uptake process for L-noradrenaline resistant to desmethylimipramine (DMI) and 17-estradiol in the cat spleen.

The effects of pargyline on overflow of transmitter and uptake of noradrenaline in the cat spleen
Uptake of (L) noradrenaline in the isolated cat heart perfused with blood containing desmethylimipramine (DMI) and 17 β oestradiol (17βO)
Blakeley, A. G. H., Powis, G. & Summers, R. J., 1 Jan 1973, In : Journal of Physiology. 234, 2

Effect of the monoamine oxidase inhibitor pargyline on the uptake of labelled noradrenaline by the cat's spleen.

Cat assay for the emetic action of digitalis and related glycosides (digitoxin, digoxin, lanatoside C, ouabain and calactin)

Effects of monoamine oxidase inhibitors on the hypothermia produced in cats by halothane.

Qualifications

Employment
Professor
Drug Discovery Biology
MONASH UNIVERSITY
19 Jun 1999 → present

Consultant
Atrogi Pty Ltd
Sweden
1 Jul 2017 → present

Consultant
Les Laboratoires Servier (Servier Laboratories)
France
1 Jan 2013 → present

Activities
Theme Leader
Roger Summers (Member)
10 Nov 2011

Prizes
ASCEPT Life Member
Roger Summers (Recipient), 2010

ASCEPT/British Pharmacol Soc Visiting Lecturer
Roger Summers (Recipient), 1991

British Pharmacological Society award for contributions to Molecular Pharmacology
Roger Summers (Recipient), 2009

David Syme Research Prize University of Melbourne
Roger Summers (Recipient), 1986
Faculty Research Award for Excellence in Research
Roger Summers (Recipient), Nov 2018

Fellow of the British Pharmacological Society
Roger Summers (Recipient), 2005

Honorary Doctorate honoris causa Stockholm University
Roger Summers (Recipient), 2006

Honorary Fellow of the British Pharmacological Society
Roger Summers (Recipient), Dec 2017

Honorary Professorial Research Fellow Florey Institute
Roger Summers (Recipient), 2009

Honorary Research Fellow University of Leicester
Roger Summers (Recipient), 1996

Honorary Senior Principal Research Fellowship Florey Institute
Roger Summers (Recipient), 2004

Kathleen & Lovat Fraser Award of the National Heart Foundation
Roger Summers (Recipient), 1992

Michael Rand Medal ASCEPT
Roger Summers (Recipient), 2003

Tage Erlander Visiting Professorship Swedish Research Council
Roger Summers (Recipient), 2003

Visiting Professorship Toho University Japan
Roger Summers (Recipient), 2003

Visiting Scientist Florey Institute
Roger Summers (Recipient), 1988

Visiting Scientist in Neuroscience Johns Hopkins University
Roger Summers (Recipient), 1982

Projects
Advanced protein modelling and docking system
Summers, R.
National Health & Medical Research Council (NHMRC)
1/01/06 → 31/12/06

Central Adrenoceptor Subtypes and Their Role in Control of Metabolism and Food Intake
Summers, R. & Zakhem, M.
Monash University
1/01/00 → 31/12/00
Characterisation of insulin-independent glucose uptake mediated by G-protein coupled receptors
Summers, R., Bengtsson, T. & Hutchinson, D.
Australian Research Council (ARC)
1/01/09 → 30/06/11

Characterisation of novel ligands for diabetes
Hutchinson, D. & Summers, R.
Atrogi Pty Ltd
4/02/19 → 3/02/20

Fusion Universal Microplate Analyser - Equipment Grant 2000
Beart, P., Cheema, S., Evans, B. & Summers, R.
National Health & Medical Research Council (NHMRC), Monash University
13/03/01 → 31/12/01

Investigation of the Mechanisms Involved in Consolidation of Memory By Beta 3 Adrenoceptoragonists
Gibbs, M. & Summers, R.
National Health & Medical Research Council (NHMRC)
16/03/00 → 31/12/03

Microisolators, Laminar Flow Hoods and Microinjection Suite to Equip the Specific Pathogen Free Genetically Modified Mouse Facility At Monash University
Summers, R., Bertram, J., Lawrence, A., Mercer, J. & Perkins, A.
Wellcome Trust
1/01/00 → 31/12/02

Molecular Pharmacology of Beta Adrenoceptors in Multiple Disease States - Application Is Also for a Research Fellowship - Project 124406 Combined With 124407 (gms Id 000458)
Summers, R. & Evans, B.
National Health & Medical Research Council (NHMRC)
1/01/00 → 31/12/02

Molecular mechanisms underlying G protein coupled receptor signaling
Sexton, P., Christopoulos, A., Eidne, K. & Summers, R.
National Health & Medical Research Council (NHMRC)
1/01/04 → 31/12/06

Molecular pharmacology of receptor activity modifying protein (RAMP) action
Sexton, P., Christopoulos, A., Summers, R. & Tilakaratne, N.
National Health & Medical Research Council (NHMRC)
1/01/04 → 31/12/06

NSV Minor Project - Novel Drug Targets Formed By G-Protein Receptor Dimers
Summers, R., Evans, B., Hutchinson, D., Phiri, N. M. & Popp, B. D.

Novel actions of beta-adrenoceptor antagonists: Implications for the treatment of cardiac failure
Summers, R. & Evans, B.
National Health & Medical Research Council (NHMRC)
2/01/08 → 31/12/10

Novel functional domains on adrenoceptors for drug interaction and cell signalling
Summers, R. & Evans, B.
National Health & Medical Research Council (NHMRC)
1/01/03 → 31/12/07
Relaxin action in the heart, kidney, lung and uterus: understanding fibrosis. LP0211545
Summers, R., Parry, L., Samuel, C. S., Tregear, G. W. & Unemori, E.
Australian Research Council (ARC), Connetics Group
1/01/02 → 31/12/04

Relaxin: Molecular mechanisms of action in the reversal of fibrosis
Australian Research Council (ARC), BASS Medical Inc
1/01/05 → 31/12/07

Relaxin: molecular mechanisms of cardioprotection
Summers, R., Bathgate, R. & Samuel, C. S.
Australian Research Council (ARC), Corthera Inc.
4/01/11 → 31/12/14

Replacement of Automated Nucleotide Sequencer Component of the Genomics and Related Technologies Centre
Coppel, R., Adler, B., Mitchell, C., Rood, J. & Summers, R.
Wellcome Trust
24/09/01 → 30/06/03

Request for a POLARstar Optima - Fluorescence Microplate Reader
Drummond, G., Ferrero, R., Ricardo, S., Summers, R. & Widdop, R.
Clive & Vera Ramaciotti Foundation
1/01/05 → 31/12/05

The Janus face of G Protein-Coupled Receptors: Implications for Disease Mechanisms and Opportunities for Drug Discovery
Sexton, P., Bunnett, N., Christopoulos, A. & Summers, R.
National Health & Medical Research Council (NHMRC)
1/01/14 → 31/12/18

The Role of Central Adrenoceptor Subtypes in Control of Memory: Analysis Using Transgenic Mice
Gibbs, M. & Summers, R.
ANZ Trustees
1/01/02 → 31/12/02

Understanding G Protein-coupled receptors (GPCRs): Accelerating discovery from concept to clinic
Sexton, P., Christopoulos, A. & Summers, R.
National Health & Medical Research Council (NHMRC)
1/01/09 → 31/12/13

Understanding cell signalling mechanisms activated by relaxin family peptides: targets with therapeutic potential.
Summers, R. & Bathgate, R.
National Health & Medical Research Council (NHMRC)
2/01/07 → 31/12/08

Understanding the mechanisms used by G-protein coupled receptors to regulate insulin-independent glucose transport
Hutchinson, D. & Summers, R.
National Health & Medical Research Council (NHMRC)
2/01/08 → 31/12/10