

<b>Project no.</b>	<b>Name of the project</b>	<b>Principal investigator</b>	<b>Years</b>	<b>Agency</b>
309/93/0584	Time-contingent neuronal integration in schizophrenics	R. Jirsa	1993-1995	GAĚR
204/93/0703	Quaternary structure of Na,K-ATPase and its dynamics: Localization of the subunits in the native enzyme complex	E. Amler	1993-1995	GAĚR
306/93/0581	Cholesterol esterification in high density lipoproteins: A quantitative prognostic indicator for the risk of coronary artery diseases	M. Dobiášová	1993-1995	GACR
309/93/0574	Inductive influence on regeneration of lamellar mechanoreceptors during development and after cross-reinnervation: axon or basal lamina?	I. Jirmanová	1993-1995	GAĚR
309/93/2364	Entrainment of the mammalian circadian clock by photic and non-photic stimuli	H. Illnerová	1993-1995	GACR
311/93/2130	The influence of dietary protein on some hemodynamic and transport processes in hypertensive and uremic rats	J. Heller	1993-1995	GAĚR
309/93/0592	Convulsant effects of homocysteine and homocysteic acid in the developing brain	J. Folbergrová	1993-1995	GAĚR
306/93/0614	Increased sensitivity of spinothalamic neurones as a basis for chronic pain during experimental arthritis	J. Palecek	1993-1995	GACR
305/93/0578	Regulation of epithelial sodium and potassium transport during early ontogenesis	J. Pácha	1993-1995	GAĚR
306/93/0582	Regression of chronic hypoxia – induced cardiopulmonary changes, effect of angiotension – converting enzyme inhibitors	B. Ošťádal	1993-1995	GACR

309/93/0579	What is the role of amino acids in the generation of epileptic spike-and-wave rhythm	P. Mareš	1993-1995	GAÈR
204/93/0700	Transport systems of the yeast plasma membrane: Regulation of their expression and function	A. Kotyk	1993-1995	GAÈR
306/93/0573	Disturbances of lipid metabolism and ion transport in hypertriglyceridemia and hypertension: genetic analysis	J. Kuneš	1993-1995	GACR
301/93/0589	Effect of gene transfer of the mitochondrial uncoupling protein into white adipose tissue	J. Kopecký	1993-1995	GAÈR
303/93/0598	Hormonal regulation of terminal glycosylation of membrane-bound enzymes in the small intestine during ontogeny	J. Kolínská	1993-1995	GACR
305/93/0603	Mechanismus of neuromuscular adaption to natural hypothermia – hibernation	F. Vyskocil	1993-1995	GACR
204/93/0704	Correlation between membrane potential and membrane ionic channels of neural and non-neural cells	F. Vyskocil	1993-1995	GACR
305/93/0591	Functional properties of chimeric and natural acetylcholine receptors	F. Vyskocil	1993-1995	GACR
309/93/0587	Study of calcium-mediated modulation of glutamate receptors and excitatory synaptic transmission	L. Vyklický	1993-1995	GACR
305/93/0585	Mechanisms of melatonin in gonatotrophs	J. Vanecek	1993-1995	GACR
309/93/0588	Allosteric control of muscarinic receptors	S. Tucek	1993-1995	GACR
309/93/0577	Role of free radicals in ischemic-hypoxic and degenerative damage of the brain by endogenous excitotoxins	F. Štastný	1993-1995	GACR

A711103	Expression of muscarinic receptors in cardiomyocytes	S. Tucek	1993-1995	GAAV
A511103	Ultrastructural and immunocytochemical analysis of muscle lineages in intrafusal fibres after muscle denervation and transplantation	T. Soukup	1993-1995	GAAV
A511101	Coding of stimulus intensity and information processing in small neuronal networks. Theoretical analysis	P. Lánský	1993-1995	GAAV
A711104	Disturbances of lipid metabolism and ion transport in hypertriglyceridemia and hypertension: genetic analysis	J. Kuneš	1993-1995	GAAV
A511104	Heterologous expression of mitochondrial uncoupling protein gene in white adipose tissue	J. Kopecký	1993-1995	GAAV
202/94/1712	Mapping of intracellular concentrations of ions inside living cells	J. Slavík	1994-1996	GACR
305/94/1719	The role of 11 $\beta$ -hydroxysteroid dehydrogenase in the regulation of intestinal Na <sup>+</sup> transport and maturation by corticosteroids	J. Pácha	1994-1996	GAÈR
306/94/1723	Functional and structural properties of the unloaded heart	F. Kolár	1994-1996	GACR
303/94/1718	Changes in energetic metabolism during postnatal development and during liver regeneration	M. Kalous	1994-1996	GAÈR
303/94/1715	Interaction of long-lived proteins with exo and endogenous stressors carrying an aldehydic group	Z. Deyl	1994-1996	GACR
A511408	Molecular mechanism of melatonin action in gonadotrophs	J. Vanecek	1994-1996	GAAV
A511403	Expression of heterologous membrane carriers in	H. Sychrová	1994-1996	GAAV

	yeasts			
A711404	The neural basis of fast time-locked segmentation of sensorymotor integration	R. Jirsa	1994-1996	GAAV
A511407	Regulation of biosynthesis of mammalian mitochondrial ATP-synthase	J. Houštek	1994-1996	GAAV
A711402	Functional organization of the neural circuits of conditioned taste aversion	J. Bureš	1994-1996	GAAV
A711401	Neural mechanism of spatial memory	J. Bureš	1994-1996	GAAV
306/95/0614	Salt sensitivity of blood pressure in the rat: membrane-related markers and genetic factors	J. Zicha	1995-1997	GAÈR
309/95/0617	Presynaptic modulation of non-quantal release of neurotransmitter	H. Zemková	1995-1997	GACR
304/95/0626	Structural and functional analysis of development of embryonic kidney components	Z. Zemanová	1995-1997	GACR
303/95/0615	Lipid peroxidation and its effects. Some biochemical defense mechanism against effects of oxygen free radicals and lipoperoxides	H. Rauchová	1995-1997	GAÈR
309/95/0616	Nitric oxide participations of glutamate receptor induced by action of endogenous excitotoxins	V. Lisý	1995-1997	GACR
309/95/0627	Stochastic bursting in neuronal activity and information coding	P. Lánský	1995-1997	GACR
301/95/0620	Molecular biology and studie of uncoupling mutant expressed in yeast	P. Ježek	1995-1997	GACR
204/95/0612	Regulation of expression and function of pyrogenic cytokines in the somatic cells	L. Burýšek	1995-1997	GACR
204/95/0624	Are the high and low affinity ATP binding sites of Na,K-ATPase different or identical?	E. Amler	1995-1997	GAÈR

A7011508	To characterize the rat circadian pacemaker in the suprachiasmatic nucleus of the hypothalamus after birth and to clarify the involvement of photic and non-photic stimuli in its entrainment	H. Illnerová	1995-1997	GAAV
A5011504	3-D reconstruction of biological objects and measurement of their geometrical characteristics by using confocal microscopy	L. Kubínová	1995-1997	GAAV
A7011505	Genetic analysis of plasma cholesterol response and its interactions with other risk factors of atherosclerosis in the rat	M. Pravenec	1995-1997	GAAV
A7011506	Acetylcholine release modulation by presynaptic muscarinic receptors	V. Doležal	1995-1997	GAAV
A5011503	Effect of magnesium ions on secondary, tertiary and quaternary structure of Na,K-ATPase	E. Amler	1995-1997	GAAV
A5011501	The role of GTP-binding proteins in hormonal stimulation of brown adipose tissue	P. Svoboda	1995-1997	GAAV
A7011502	Quantal and non-quantal acetylcholine release at motor endplate	F. Vyskocil	1995-1997	GAAV
303/96/1318	Glucocorticoid and cytokine regulation of enterocyte and thymocyte differentiation and glycosylation of membrane glycoproteins during ontogeny	J. Kolínská	1996-1998	GACR
203/96/K128	Capillary electromigration methods and their application for the separation of proteins and peptides	Z. Deyl	1996-2000	GACR
406/96/1314	Temporal aspects of perception and the action perception of temporal aspects	J. Mates	1996-1998	GACR

306/96/1283	Growth of vascular smooth muscle cells isolated from SHR: the influence of gender	J. Kuneš	1996-1998	GACR
204/96/1313	Mechanisms of acidification in yeasts	A. Kotyk	1996-1998	GAÈR
311/96/0681	Role of mitochondria in control of adiposity and regional fat distribution	J. Kopecký	1996-1998	GAÈR
204/96/1315	Biogenesis and regulation by degradation of model yeast transporters	J. Horák	1996-1998	GACR
306/96/1289	Metabolism of articesterone and sodium transport in the Sidney and in the Time of hypertension and normotensive rats	J. Pácha	1996-1998	GAÈR
305/96/0680	Role of glutamate receptors during postnatal development in motoneurons	J. Palecek	1996-1998	GACR
302/96/1282	Mapping of genetic determinants of spontaneous hypertension in recombinant inbred and congenic strains of the rat	M. Pravenec	1996-1998	GACR
305/96/0678	Role of cytosolic and membrane bound forms of trimeric GTP –binding proteins in desensitization of beta-adrenergic stimulus	P. Svoboda	1996-1998	GAÈR
309/96/1287	Allosteric modulation of muscarinic receptors	S. Tucek	1996-1998	GACR
309/96/0682	Mechanisms of melatonin action in suprachiasmatic neurons	J. Vanecek	1996-1998	GACR
A1011601	Forster energy transfer in the mutants of uncoupling protein /Ucp/ - Photophysics of single-tryptophan mutants of Ucp	J. Polecha	1996-1998	GAÁV
A7011603	Functional and structural consequences of pilocarpine-induced status epilepticus in immature and adult rats	H. Kubová	1996-1998	GAÁV
A7011604	Human circadian clock:	I. Hájek	1996-	GAÁV

	effect of annual season, daily schedule and genetics		1998	
3508-3	Tolerance of the neonatal heart to ischemia	I. Oštádalová	1996-1998	IGAMZ
3509-3	Abnormalities of red cell potassium and sodium transport as markers for salt sensitivity of blood pressure	J. Zicha	1996-1998	IGAMZ
3510-3	Behavioral consequences of epileptic seizures	P. Mareš	1996-1998	IGAMZ
309/97/055 6	Central vestibular projections: experimental and clinical studies	G. Brožek	1997-1999	GACR
309/97/055 5	Hippocampal place cells and neural representation of space	J. Bureš	1997-1999	GACR
309/97/051 8	The role of glutamate receptor subtypes in the convulsant effect of homocysteic acid in immature rats	J. Folbergrová	1997-1999	GAĚR
303/97/055 4	Regulation of biogenesis and genetic defects of mammalian ATPsynthase	J. Houštek	1997-1999	GACR
306/97/052 2	Molecular basis of mitochondrial function in normal and hypoxic developing heart	B. Oštádal	1997-1999	GACR
309/97/055 2	Is the main inhibitory system damaged in progressive epileptogenesis after pilocarpine-induced seizures in adult and immature rats?	P. Mareš	1997-1999	GAĚR
306/97/052 1	Genetic and correlation analysis of a complex metabolic syndrome in spontaneously hypertensive rats	M. Pravenec	1997-1999	GACR
304/97/051 6	Analysis of the role of myogenic and neurogenic factors regulating the expression of specific phenotypes in intrafusal muscle fibres	T. Soukup	1997-1999	GACR
309/97/051	Effect of photoperiod and	A. Sumová	1997-	GACR

2	light stimuli on the functional state of the mammalian circadian clock		1999	
309/97/0513	Mechanism of the inhibitory effect of melatonin on Gn RH-induced /Ca <sup>2+</sup> /, increase and LH release in neonatal rat gonadotrophs	J. Vanecek	1997-1999	GACR
309/97/0517	Molecular properties and regulation of glutamate receptor function	L. Vyklický	1997-1999	GACR
305/97/0519	Molecular mechanisms of nociception	L. Vyklický	1997-1999	GACR
A7011706	Conditioned taste aversion /CTA/: the locus and nature of the engram	E. Bielavská	1997-1999	GAAV
A7011707	Regulation of high density lipoprotein /HDL/ particle size distribution in relation to risk of coronary artery disease. Study in children	M. Dobiášová	1997-1999	GAAV
A5011710	Significance of mitochondrial energetics for the phenotype of adipose cell: in vitro study	J. Kopecký	1997-1999	GAAV
A7011711	Hypertension and metabolic syndrome: causes and consequences	J. Kuneš	1997-1999	GAAV
A7011712	Some computational aspects of neuronal activity	P. Lánský	1997-1999	GAAV
A7011713	Mutation of colonic sodium transport and its regulation	J. Pácha	1997-1999	GAAV
A5011705	Mechanism of the melatonin effect on second and third messengers in neonatal rat gonadotrophs	J. Vanecek	1997-1999	GAAV
4035-3	New biochemical methods in prenatal diagnosis of mitochondrial diseases	J. Houštek	1997-1999	IGAMZ
4034-3	Stochastic model of residence time in pharmacokinetics	P. Lánský	1997-1999	IGAMZ
4037-3	Remodelation of human myocardium in congenital heart disease	V. Pelouch	1997-1999	IGAMZ
4036-1	Anticonvulsant profile of drugs facilitating gabaergic inhibition	P. Mareš	1997-1999	IGAMZ

ME085	Molecular biology of fatty acid anion binding site of mitochondrial phosphate carrier	P. Ježek	1997-1999	MŠMT
ME 075	Structure, function and dynamics of sodium pump	E. Amler	1997-1998	MŠMT
204/98/0468	Structure and dynamics of high and low affinity ATP binding sites of Na <sup>+</sup> /K <sup>+</sup> -ATPase	E. Amler	1998-2000	GAĚR
305/98/0469	Mechanisms and possibilities of pharmacological intervention in presynaptic regulation of acetylcholine release	V. Doležal	1998-2000	GACR
301/98/0568	Molecular biology and structure function studies of multiple substitution mutants of mitochondrial uncoupling protein	P. Ježek	1998-2000	GACR
306/98/0470	Cardioprotective mechanisms of adaption to chronic hypoxia: relation to preconditioning	F. Kolár	1998-2000	GACR
204/98/0474	Mapping of membrane potential, pH, calcium and other ions in animal and plant cells using fluorescent probes and confocal microscopy with the emphasis on their spatial and temporal relation during the transduction of the signal through the plasma membrane	J. Slavík	1998-2000	GACR
303/98/0473	Characterization of antioxidant capacity of rat brain tissue during ontogenesis	H. Rauchová	1998-2000	GAĚR
204/98/0475	Expression of genes involved in the osmotolerance of non-conventional yeasts in <i>Saccharomyces cerevisiae</i>	H. Sychrová	1998-2000	GAĚR
304/98/0604	Analysis of the histone model of nephron cystic dilations in the chick embryo	Z. Zemanová	1998-2000	GACR

A7011801	Molecular mechanism of interaction between the H4-H5 loop of Na <sup>+</sup> /K <sup>+</sup> -ATPase and the binding site for cardiac glycosides	E. Amler	1998-2000	GAAV
A5011810	3-D studies of cells and their components: confocal microscopy applied to compare methods for measuring their geometrical characteristics	L. Kubínová	1998-2000	GAAV
A7011813	The influence of an excess of bromine and/or iodine deficiency on the metabolism of thyroid hormones in tissues	S. Pavelka	1998-2000	GAAV
A7011805	Oxygen free radicals and nitric oxide in the pathogenesis of age-dependent experimental hypertension: the attenuation of vasodilator mechanisms by high oxidative stress	J. Zicha	1998-2000	GAAV
4810-3	Liposomal photodynamic therapy of tumors	J. Borecký	1998-2000	IGAMZ
4643-3	Tissue and organ maturation in neonates: involvement of uncoupling protein - 2	J. Kopecký	1998-2000	IGAMZ
4795-3	Genetic and correlation analysis of learning and memory processes in the rat	M. Pravenec	1998-2000	IGAMZ
4812-3	Genetic analysis of experimental compensatory renal hypertrophy	M. Pravenec	1998-2000	IGAMZ
4646-3	New method for determination of antibodies against nicotinic acetylcholine receptors in patients with myasthenia gravis	J. Rícný	1998-2000	IGAMZ
ME158	Mechanisms of VIP and melatonin action on diurnal rhythm of vasopressin release from neurons of suprachiasmatic nucleus	J. Vanecek	1998-2000	MŠMT

ME256	Computer reconstruction, visualization and analysis of geometry of muscle capillary bed	I. Krekule	1998-1999	MŠMT
ME226	Mitochondrial diseases caused by depletion and mutations of mitochondrial DNA	J. Houšek	1998-2000	MŠMT
OC 918.10	Body weight and energy expenditure: functional foods	J. Houšek	1998-2002	MŠMT
203/99/0191	Micellar electrokinetic chromatography of posttranslationally modified structural proteins	Z. Deyl	1999-2001	GACR
303/99/0197	Glucocorticoid regulation of membrane glycoproteins as markers of differentiation and development: thymocytes in comparison with enterocytes	J. Kolínská	1999-2001	GACR
311/99/0196	Fatty acids oxidation in white adipose tissue: systemic effects	J. Kopecký	1999-2001	GAĚR
309/99/0207	Does the receptor, the spectrum of G proteins and the role of GABA? system change during development?	P. Mareš	1999-2001	GAĚR
306/99/0210	The role of 11 $\beta$ – hydroxysteroid dehydrogenase in hypertension	J. Pácha	1999-2001	GAĚR
309/99/0211	Localization, distribution and function of glutamate receptor in brain capillary barrier	F. Štastný	1999-2001	GACR
309/99/0214	Allosteric regulation of muscarinic acetylcholine receptors	S. Tucek	1999-2001	GACR
309/99/0213	Intracellular mechanisms of entrainment of the circadian pacemaker in hypothalamic suprachiasmatic nucleus	J. Vanecek	1999-2001	GACR
309/99/0215	Synaptic transmission in suprachiasmatic nucleus	H. Zemková	1999-2001	GACR

A7011908	Improved cell adhesion on physico-chemically modified polymer surfaces	L. Bacáková	1999-2001	GAAV
A7011910	Neurotransmitter receptors and signal transduction in the heart. Their modulation by glucocorticoids	S. Tucek	1999-2002	GAAV
A7011801	Molecular mechanism of the interaction of ATP-derivatives with the H4-H5 cytoplasmic loop	E. Amler	1999-1999	GAAV
A7011902	The structure and function of the nicotinic acetylcholine receptor	F. Vyskocil	1999-2002	GAAV
5183-3	Beta – amyloid and the function of cholinergic synapses	V. Doležal	1999-2001	IGAMZ
5745-3	Therapy of convulsive status epilepticus – experimental and clinical study	P. Mareš	1999-2001	IGAMZ
OC918.30	Effect of genetic background on mitochondrial functions in white adipose tissue	J. Kopecký	1999-2001	MŠMT
305/00/1660	Physiological significance of the long and short variants of Gs-alpha protein	J. Novotný	2000-2003	GACR