

## ***CURRICULUM VITAE***

**Name:** Ana Maria Sebastião,

**Born:** 15th March 1958, Oeiras, Portugal

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### **Professional and Academic Career :**

2013 – Full Professor, Faculdade de Medicina, Universidade de Lisboa

2004 – 2013 - Associate Professor, Faculdade de Medicina, Universidade de Lisboa

2001 – ‘Agregação’ in Neurosciences, Faculty of Medicine, University of Lisbon

1997- 2004 - Auxiliar Professor, Faculdade de Medicina, Universidade de Lisboa

1986 -1997 - Researcher, Instituto Gulbenkian de Ciência, Oeiras

1987 – PhD in Cell Physiology, New University of Lisbon

1982 – 1986 - PhD Studentship, Instituto Gulbenkian de Ciência, Oeiras and Universidade Nova de Lisboa

1982 – Basic Degree in Biology (final average mark: 18/20)

### **Functions**

Professor of Pharmacology and Neuroscience, Faculty of Medicine, University of Lisbon

Member of Conselho de Escola (School Council), Faculty of Medicine, University of Lisbon

Member of the Scientific Board of the Master and PhD Programmes in Neuroscience, Faculty of Medicine, University of Lisbon

Member of the Scientific Board of the Master and PhD Programmes in Cognitive Sciences, University of Lisbon

Member of the Coordinating Board of the Biomedical Engineering Integrated Master Course, University of Lisbon

Member of the Editorial Board of Journal of Neurochemistry

Member of the Editorial Board of European Journal of Pharmacology

Member of the editorial Board of Purinergic Signalling

Member of Academia Nacional de Medicina de Portugal

Member of the Executive Committee of EPHAR (2002-2008)

Past-Coordinator of the GAPIC, a board in the School of Medicine devoted to create incentives for scientific investigation by Medical Students (2006-2009)

Past-President of the Portuguese Society for Neuroscience (President 2003-2007)

Past-President of Portuguese Society for Pharmacology (President 2000-2003)

**Areas of Research:** Neuromodulation of synaptic transmission and plasticity at the tripartite synapse; control of neuronal excitability with focus at inhibitory and excitatory hippocampal synapses. Neuromodulators cross-talk focusing on neurotrophins, adenosine and cannabinoids. Neuroprotection and recovery from acute and chronic neuronal insults. Adenosine receptors and adenosine transporters. GABA transporters. Approaches: Electrophysiology (intra, extra and patch clamp) neurochemistry (binding, release and transport studies at neurons and astrocytes) and calcium imaging (astrocytes).

## **Ongoing Research Projects as Project Leader:**

### **National:**

2011/2014 - Modulation of Gabaergic transmission in the hippocampus by adenosine. PTDC/SAU-NMC/110838/2009. Coordinator: A.M. Sebastião

### **International:**

2013/2016 – Influence of adenosine receptors upon the neuroregulatory action of endocannabinoids in the hippocampus. Collaboration with Karri Lamsa (University of Oxford)

2012/2015 – Influence of adenosine and BDNF upon GAT activity and tonic GABAergic currents in an animal model of absence epilepsy. Collaboration with Vincenzo Crunelli (University of Cardiff, UK)

2012/2015 – Functional characterization of BDNF and adenosine signalling at the hippocampus of mice lacking astrocytic adenosine kinase the whole brain. Collaboration with Detlev Boison (Portland, USA)

2011/2013 – Control by adenosine at specific inhibitory synapses of the hippocampus. Collaboration with Karri Lamsa (University of Oxford, UK)

## **Previous projects**

### **International:**

2009/2012 – Influence of adenosine kinase genotype upon neuromodulatory tone exerted by adenosine. In collaboration with Detlev Boisson (Portland, USA), Bruno Frenguelli (Warwick, UK) and Cristina Limatola (Rome)

2007/2010 COST B30 Action (EU): Neural Regeneration and Plasticity (NEREPLAS): Chair of the whole action: Delgado-Garcia, JM (Sevilla, Spain). A.M. Sebastião is the Chair of Neurobiology Group, which involves several groups from different European countries

A1/A2A receptor dimmers in astrocytes to control GABA transport, in collaboration with Rafael Franco (Barcelona)

Involvement of beta-arrestins for TrkB receptor transactivation by adenosine A2A receptors, in collaboration with Gunnar Schulte (Karolinska Inst, Stockholm. This research project is also in collaboration with Moses Chao (New York, USA).

Influence of caffeine in memory and synaptic impairment induced by cannabinoids, in collaboration with Judith Pratt and Ros Brett (Glasgow)

2004/2010 – Mechanisms of neuroprotection by interleukin 6: interplay with adenosine. Collaborative project with Knut Biber (Groningen), 2007/2008 – Modulation by adenosine of the BDNF synaptic influence, in collaboration with Detlev Boisson (Oregon) who developed mice strains over or under-expressing adenosine kinase and in Collaboration with Regeneron Pharmaceuticals (USA) that supplies BDNF.

1996/1998 – Portuguese coordinator of the EU project BIOMED II, BMH4-CT96-0676, 'Nucleotides, a novel class of extracellular signalling substances in the nervous system. General coordinator: H. Zimmermann, Univ. Frankfurt. Other participants: M.P. Abbrachio, Univ. Milão; G. Burnstock, University College, Londres; E Heilbronn, Univ. Stockholm; M.T. Miras-Portugal, Univ. Complutense de Madrid; K. Starke, Univ. Freiburg.

1989/1990 – General coordinator of the EU project of the Biotechnology Action Programme, BAP-0470P-EDP, 'In vitro evaluation of the pharmacological activity of analogues of adenine nucleotides and adenosine: structure activity requirements of ectonucleotidases'.

### **National:**

2007/2010 – Trophic actions of neurotrophic factors: dependency of co-activation of A2A adenosine receptors. PTDC/SAU-NEU/64126/2006. Project coordinator: A.M. Sebastião. Other partner Institutions: Centro Neurociências de Coimbra (IP: Emília Duarte), Faculdade de Farmácia, Univ Lisboa (IP: Rui Silva)

2005/2008 – Neurotrophins and neuronal communication: fine tuning by adenosine. POCTI/SAU/56332/2004. Coordinator: A.M. Sebastião

2006/2007 - Modulation of apoptosis by BDNF and adenosine. Supported by GAPIC (FMUL) and in collaboration with C. Rodrigues, Fac. Farmácia, Univ. Lisboa

2003 - 2006 General coordinator of the project POCTI/37398/NSE/2001 "Modulation of synaptic transmission in interneurons: Role of adenosine". Supported by FCT (Portugal).

1999/2002 - 'Role of A2A receptors in the hippocampus: modulation of neuromodulators?' - SAU/14012/1998.

1996/1998 - 'Interactions between adenosine and neuropeptides in the nervous system' - PRAXIS/2/2.1/BIA/137/94.

1993/1995 – 'Neuromodulation by adenosine in the hippocampus STRD/SAU/292/92,

### List of publications

**Citations** in international literature according to the Web of knowledge (May 2013, abstracts excluded): **3940**. h index: **34**; average citation per item: **33,97**.

### List of Refereed Papers

1. Assaife-Lopes N, Sousa VC, Pereira DB, Ribeiro JA, **Sebastião AM** (2013) Regulation of TrkB receptor translocation to lipid rafts by adenosine A<sub>2A</sub> receptors and its functional implications for BDNF-induced regulation of synaptic plasticity. **Purinergic Signalling** (ePub ahead of print)
2. Rocha, MC, Pousinha PA, Correia AM, **Sebastião AM**, Ribeiro JA (2013) Early changes of neuromuscular transmission in the SOD1(G93A) mice model of ALS start long before motor symptoms onset. **PLOS ONE** (in the press)
3. Sousa VC, Ribeiro JA, **Sebastião AM** (2013) Caffeine and adenosine receptor modulation of cannabinoid influence upon cognitive function. **J Caffeine Research** (in the press)
4. Cristóvão-Ferreira S, Navarro G, Brugarolas M, Pérez-Capote K, Vaz SH, Fattorini G, Conti F, Lluís C, Ribeiro JA, McCormick PJ, Casadó V, Franco R, **Sebastião AM** (2013) A1R-A2AR heteromers coupled to Gs and Gi/o proteins modulate GABA transport into astrocytes. **Purinergic Signalling**, 9:433-449
5. Xapelli S, Agasse F, Sardà-Arroyo L, Bernardino L, Santos T, Ribeiro TF, Valero J, Bragança J, Schitine C, de Melo Reis RA, **Sebastião AM**, Malva JO (2013) Activation of Type 1 cannabinoid receptor (CB1R) promotes neurogenesis in murine subventricular zone cell cultures. **PLOS ONE** (in the press)
6. Aroeira RI, Sebastião AM, Valente CA (2013) GlyT1 and GlyT2 in brain astrocytes: expression, distribution and function. **Brain Struct Funct** (ePub Mar 2013).
7. Dias RB, Rombo DM, Ribeiro JA, Henley JM, **Sebastião AM** (2013) Adenosine: setting the stage for plasticity. **Trends in Neuroscience** 36:248-257
8. Pimentel VC, Zanini D, Cardoso AM, Schmatz R, Bagatini MD, Gutierrez JM, Carvalho F, Gomes JL, Rubín M, Morsch VM, Moretto MB, Colino-Oliveira M, **Sebastião AM**, Schetinger MR. (2013) Hypoxia-Ischemia Alters Nucleotide and Nucleoside Catabolism and Na(+),K (+)-ATPase Activity in the Cerebral Cortex of Newborn Rats. *Neurochemical Research*, 38:886-894.
9. **SEBASTIÃO AM**, COLINO-OLIVEIRA M, ASSAIFE-LOPES N, DIAS RB, RIBEIRO JA (2013) Lipid rafts, synaptic transmission and plasticity: impact in age-related neurodegenerative diseases. **Neuropharmacology** 64:97-107
10. DIAS RB, ROMBO DM, RIBEIRO JA, **SEBASTIÃO AM** (2013) Ischemia-induced synaptic plasticity drives sustained expression of calcium-permeable AMPA receptors in the hippocampus. **Neuropharmacology**, 65:114-122
11. RAMALHO RM, NUNES AF, DIAS RB, AMARAL JD, LO AC, D'HOOGHE R, **SEBASTIÃO AM**, RODRIGUES CM (2013). Tauroursodeoxycholic acid suppresses amyloid  $\beta$ -induced synaptic toxicity in vitro and in APP/PS1 mice. **Neurobiol Aging** 34:551-61
12. **SEBASTIÃO AM** CRISTÓVÃO-FERREIRA S, RIBEIRO JA (2013). Downstream Pathways of Adenosine A key link between Metabolism and Brain Activity, D Masino and D Boison (eds) , DOI 10.1007/978-1-4614-3903-5\_7\_1, Springer Science+Business Media New York. Adenosine
13. VALADAS JS, BATALHA VL, FERREIRA DG, GOMES R, COELHO JE, **SEBASTIÃO AM**, DIÓGENES MJ, LOPES LV. (2012) Neuroprotection afforded by adenosine A<sub>2A</sub> receptor blockade is modulated by corticotrophin-releasing factor (CRF) in glutamate injured cortical neurons. **J Neurochem**. 123:1030-1040
14. DIÓGENES MJ, NEVES-TOMÉ R, FUCILE S, MARTINELLO K, SCIANNI M, THEOFILAS P, LOPATÁR J, RIBEIRO JA, MAGGI L, FRENGUELLI BG, LIMATOLA C, BOISON D, **SEBASTIÃO AM** (2012). Homeostatic Control of Synaptic Activity by Endogenous Adenosine is Mediated by Adenosine Kinase. **Cereb Cortex** Sep 20. (Epub ahead of print)
15. DIÓGENES MJ, DIAS RB, ROMBO DM, VICENTE-MIRANDA H, MAIOLINO F, GUERREIRO P, NASSTROM T, FRANQUELIM HG, OLIVEIRA LM, CASTANHO MARB, LANNFELT L,

- JBERGSTROM J, INGELSSON M, QUINTAS A, **SEBASTIÃO AM**, LOPES LV, FLEMING-OUTEIRO T (2012). Extracellular alpha-synuclein oligomers modulate synaptic transmission and impair LTP via NMDA-receptor activation. *J Neurosci*. 32:11750-11762
16. **SEBASTIÃO AM**, RIBEIRO FF, RIBEIRO JA. (2012) From A1 to A3 en passant through A2A Receptors in the Hippocampus: Pharmacological Implications. *CNS Neurol Disord Drug Targets*. 11:652-663
  17. DIAS RB, RIBEIRO JA, **SEBASTIÃO AM** (2012). Enhancement of AMPA currents and GluR1 membrane expression through PKA- coupled adenosine A2A receptors. *Hippocampus*, 22, 276-291.
  18. BATALHA VL, PEGO JM, FONTINHA B, COSTENLA AR, VALADAS J, BAQI Y, RADJAINIA H, MÜLLER CE, **SEBASTIÃO AM**, LOPES LV (2012). Adenosine A2A receptor blockade reverts hippocampal stress-induced deficits and restores corticosterone circadian oscillation. *Molecular Psychiatry* 18: 320-331.
  19. SILVA SL, VAZ AR, DIÓGENES MJ, VAN ROOIJEN N, **SEBASTIÃO AM**, FERNANDES A, SILVA RF, BRITES D (2012). Neuritic growth impairment and cell death by unconjugated bilirubin is mediated by NO and glutamate, modulated by microglia, and prevented by glycocholic acid and interleukin-10. *Neuropharmacology*, 62(7):2398-408
  20. FREITAS PP, CARDOSO FA, MARTINS VC, MARTINS SA, LOUREIRO J, AMARAL J, CHAVES RC, CARDOSO S, FONSECA LP, **SEBASTIÃO AM**, PANNETIER-LECOEUR M, FERMON C (2012) Spintronic platforms for biomedical applications. *Lab Chip* 12, 546-557
  21. POUSINHA PA, CORREIA AM, **SEBASTIÃO AM** and RIBEIRO JA. (2012). Neuromuscular transmission modulation by adenosine upon aging. *Neurobiol Aging* 33, 2869–2880.
  22. KEMPPAINEN S, RANTAMÄKI T, JERÓNIMO-SANTOS A, LAVASSEURD,G, AUTIO H, KARPOVA N, KÄRKKÄINENA E, STAVÉNA S, MIRANDA HV, OUTEIRO TF, DIÓGENES MJ, LAROCHE,S, DAVIS S, **SEBASTIÃO AM**, CASTRÉN E, TANILA H (2011) Impaired TrkB receptor signaling contributes to memory impairment in APP/PS1 mice. *Neurobiol Aging*, Jun;33(6):1122.e23-39.
  23. VAZ SH, JORGENSEN TN, CRISTOVAO-FERREIRA S, DUFLOT S, RIBEIRO JA, GETHER U, **SEBASTIAO AM** (2011) Brain-derived neurotrophic factor (BDNF) enhances GABA transport by modulating the trafficking of GABA transporter-1 (GAT-1) from the plasma membrane of rat cortical astrocytes. *J Biol Chem* 286:40464-4076.
  24. MORENO E, VAZ SH, CAI NS, FERRADA C, QUIROZ C, BARODIA SK, KABBANI N, CANELA EI, MCCORMICK PJ, LLUIS C, FRANCO R, RIBEIRO JA, **SEBASTIÃO AM\***, FERRÉ S\* (2011) Dopamine-Galanin Receptor Heteromers Modulate Cholinergic Neurotransmission in the Rat Ventral Hippocampus. *J Neurosci*. 31:7412-7423. \*Co-senior authors
  25. DIOGENES MJ, COSTENLA AR, LOPES LV, JERÓNIMO-SANTOS A, SOUSA VC, FONTINHA, BM, RIBEIRO JA, **SEBASTIÃO AM** (2011) Enhancement of LTP in aged rats is dependent on endogenous BDNF. *Neuropsychopharmacology* 36:1823-1836.
  26. AROEIRA RI, RIBEIRO JA, **SEBASTIÃO AM**, VALENTE CA. (2011) Age-related changes of glycine receptor at the rat hippocampus: from the embryo to the adult. *J Neurochem*. 118:339-53
  27. SOUSA VC, ASSAIFE-LOPES N, RIBEIRO, JA, PRATT JA, BRETT RR, **SEBASTIÃO AM** (2011) Regulation of hippocampal cannabinoid CB1 receptor actions by adenosine A1 receptors and chronic caffeine administration: implications for the effects of  $\Delta^9$ -tetrahydrocannabinol on spatial memory. *Neuropsychopharmacology*, 36, 472-487
  28. **SEBASTIÃO AM** (2011) Neuronal ENT1 takes up synaptic adenosine even under hypoxia/ischemia. *J Neurochem*. 118:1-3 (Editorial highlight)
  29. LOPES LV, **SEBASTIÃO AM**, RIBEIRO JA (2011) Adenosine and related drugs in brain diseases: present and future in clinical trials. *Current Topics Med Chem*. 11:1087-101
  30. **SEBASTIÃO AM**, ASSAIFE-LOPES N, DIÓGENES MJ, VAZ SH, RIBEIRO JA. (2011) Modulation of brain-derived neurotrophic factor (BDNF) actions in the nervous system by adenosine A(2A) receptors and the role of lipid rafts. *Biochim Biophys Acta*, 1808(5):1340-9
  31. MOIDUNNY S, DIAS RB, WESSELING E, SEKINO Y, BODDEKE HW, **SEBASTIÃO AM**, BIBER K. (2010) Interleukin-6-type cytokines in neuroprotection and neuromodulation: oncostatin M, but not leukemia inhibitory factor, requires neuronal adenosine A1 receptor function. *J Neurochem*. 114, 1667-77
  32. RIBEIRO JA, **SEBASTIÃO AM** (2010) Caffeine and Adenosine. *J Alzheimers Dis*, 20, S3-S15
  33. RIBEIRO JA, **SEBASTIÃO AM**. (2010) Modulation and MetaModulation of Synapses by Adenosine. *Acta Physiol (Oxf)*. Mar 24. [Epub ahead of print]
  34. **SEBASTIÃO AM** (2010) Adenosine and epilepsy-thinking beyond A(1) receptors. *Purinergic Signal*. 6:1-2.
  35. POUSINHA PA, CORREIA AM, **SEBASTIAO AM**, RIBEIRO JA (2010) Predominance of adenosine excitatory over inhibitory effects on transmission at the neuromuscular junction of infant rats. *J Pharmacol Exp Ther*. 332: 153-163.
  36. PEDATA AM, PUGLIESI AM, **SEBASTIÃO AM**, RIBEIRO JA (2010) Adenosine A3 receptor signalling in the central nervous system. In: *Adenosine A3 Receptors from Cell Biology to Pharmacology and Therapeutics*, pp. 165-188, Ed P Borea, Springer.
  37. **SEBASTIÃO AM**, RIBEIRO JA (2009) Tuning and fine-tuning synapses with adenosine. *Current Neuropharmacology*, 7: 180-194

38. SERPA A, RIBEIRO JA, **SEBASTIÃO AM (2009)** Cannabinoid CB(1) and adenosine A(1) receptors independently inhibit hippocampal synaptic transmission. *Eur J Pharmacol.* **623** :41-46
39. **SEBASTIÃO AM**, RIBEIRO JA (2009) Adenosine Receptors and the Central Nervous System. In: *Handbook of Experimental Pharmacology*, **193**, 471-534
40. **SEBASTIÃO AM**, RIBEIRO JA (2009) Triggering neurotrophic factor actions through adenosine A2A receptor activation: implications for neuroprotection. *Br J Pharmacol* **158**:15-22.
41. CRISTÓVÃO-FERREIRA S, VAZ SH, RIBEIRO JA, **SEBASTIÃO AM** (2009) Adenosine A2A receptors enhance GABA transport into nerve terminals by restraining PKC inhibition of GAT-1. *J Neurochem* **109**:336-347.
42. FONTINHA BM, DELGADO-GARCÍA JM, MADROÑALN, RIBEIRO JA, **SEBASTIÃO AM**, GRUART A (2009). Adenosine A2A receptor modulation of hippocampal CA3-CA1 synapse plasticity during associative learning in behaving mice *Neuropsychopharmacology*, **34**:1865-1874.
43. GOMES CA\*, SIMÕES PF\*, CANAS PM\*, QUIROZ C, **SEBASTIÃO AM**, FERRÉ S, CUNHA RA, RIBEIRO JA (2009). GDNF control of the glutamatergic cortico-striatal pathway requires tonic activation of adenosine A2A Receptors. *J Neurochem.* **108**:1208-1219. \*co-first authors
44. FERNANDES CC, PINTO-DUARTE A, RIBEIRO JA, **SEBASTIÃO AM** (2008) Postsynaptic action of brain-derived neurotrophic factor attenuates alpha7 nicotinic acetylcholine receptor-mediated responses in hippocampal interneurons. *J Neurosci.* **28**:5611-5618
45. VAZ SH, CRISTÓVÃO-FERREIRA S, RIBEIRO JA, **SEBASTIÃO AM** (2008) Brain-derived neurotrophic factor inhibits GABA uptake by the rat hippocampal nerve terminals. *Brain Res* **1219**:19-25
46. FONTINHA BM, DIÓGENES MJ, RIBEIRO JA, **SEBASTIÃO AM** (2008) Enhancement of long-term potentiation by BDNF requires adenosine A2A receptor activation by endogenous adenosine. *Neuropharmacology* **54**:924-933
47. BIBER K\*, PINTO-DUARTE, A.\*, WITTENDORP, MC, DOLGA, AM, FERNANDES, CC, KUNZEL JVFD, KEIJSER, JN, DEVRIES, R, IJZERMAN, AP, RIBEIRO, JA, EISEL, U, **SEBASTIÃO AM**, BODDEKE, GM (2008) Interleukin-6 upregulates neuronal adenosine A1 receptors: implications for neuromodulation and neuroprotection. *Neuropsychopharmacology* **33**:2237-2250. \*co-first authors
48. CUNHA-REIS, D., RIBEIRO, J.A. & **SEBASTIÃO, A.M.** (2008). A(1) and A(2A) receptor activation by endogenous adenosine is required for VIP enhancement of K(+)-evoked [(3)H]-GABA release from rat hippocampal nerve terminals. *Neurosci Letts* **430**:207-212
49. DIÓGENES, M.J., ASSAIFE-LOPES N. PINTO-DUARTE A, RIBEIRO, J.A., & **SEBASTIÃO, A.M.** (2007). Influence of age on BDNF modulation of hippocampal synaptic transmission: interplay with adenosine A<sub>2A</sub> receptors. *Hippocampus*, **17**:577-585.
50. CUNHA-REIS, D., FONTINHA, B., RIBEIRO, J.A. & **SEBASTIÃO, A.M.** (2007). Tonic adenosine A1 and A2A receptor activation is required for the excitatory action of VIP on synaptic transmission in the CA1 area of the hippocampus. *Neuropharmacology* **52**, 313-320.
51. CUNHA-REIS, D., RIBEIRO, J.A. and **SEBASTIÃO, A.M.** (2006) VPAC2 receptor activation mediates VIP enhancement of population spikes in the CA1 area of the hippocampus. *Ann NY Acad Sci*, **1070**, 210-214.
52. GOMES, C.A.R.V., VAZ, S.H., RIBEIRO, J.A. and **SEBASTIÃO, A.M.** (2006) Glial Cell line-derived neurotrophic factor (GDNF) enhances dopamine release in an adenosine A2A receptor dependent manner. *Brain Res*, **1113**, 129-136.
53. POUSINHA, P.A., DIÓGENES, M.J., RIBEIRO, J.A. and **SEBASTIÃO, A.M.** (2006) Triggering of BDNF facilitatory action on neuromuscular transmission by adenosine A<sub>2A</sub> receptors. *Neurosci Letts*, **404**, 143-147.
54. FRAGATA IR, RIBEIRO JA, SEBASTIAO AM (2006) Nitric oxide mediates interactions between GABA(A) receptors and adenosine A(1) receptors in the rat hippocampus. *Eur J Pharmacol.* **543**, 32-39
55. CUNHA-REIS, D., RIBEIRO, J.A. and **SEBASTIÃO, A.M.** (2005) VIP enhances synaptic transmission to hippocampal CA1 pyramidal cells through activation of both VPAC<sub>1</sub> and VPAC<sub>2</sub> receptors. *Brain Res.* **1049**, 52-60.
56. PINTO-DUARTE, A., COELHO, J.E., CUNHA, R.A., RIBEIRO, J.A. and **SEBASTIÃO, A.M.** (2005). Adenosine A<sub>2A</sub> receptors control the extracellular levels of adenosine through modulation of nucleoside transporters activity in the rat hippocampus. *J. Neurochem.* **93**, 595-604.
57. CUNHA-REIS, D., **SEBASTIÃO, A.M.**, WIRKNER, K, ILLES, P. and RIBEIRO, J.A. (2004). VIP enhances both pre- and post-synaptic GABAergic transmission to hippocampal interneurons leading to increased excitatory synaptic transmission to CA1 pyramidal cells. *Br. J. Pharmacol.* **143**, 733-744.
58. CANAS, N., PEREIRA, I.T., RIBEIRO, J.A. & **SEBASTIÃO, A.M.** (2004) Brain-derived neurotrophic factor facilitates glutamate and inhibits GABA release from hippocampal synaptosomes through different mechanisms. *Brain Res.* **1016**, 72-78.
59. DIÓGENES, M.J., FERNANDES, C.C., **SEBASTIÃO, A.M.** & RIBEIRO, J.A. (2004) Activation of adenosine A<sub>2A</sub> receptor facilitates BDNF modulation of synaptic transmission in hippocampal slices. *J. Neurosci.*, **24**, 2905-2913.
60. RIBEIRO, J.A., LOBO, M.G. & SEBASTIÃO, A.M. (2003). Endogenous adenosine modulation of 22Na uptake by rat brain synaptosomes. *Neurochem Res.*, **28**, 1589-1593.

61. REBOLA, N., SEBASTIÃO, A.M., de MENDONÇA, A., OLIVEIRA, C.R., RIBEIRO, J.A. & CUNHA, R.A. (2003). Enhanced adenosine A<sub>2A</sub> receptor facilitation of synaptic transmission in the hippocampus of aged rats. **J. Neurophysiol.** **90**, 1295-1303.
62. RIBEIRO, J.A., SEBASTIÃO, A.M. & de MENDONÇA, A. (2003). Adenosine receptors in the nervous system: pathophysiological implications. **Prog. Neurobiol.** **68**, 377-392.
63. RIBEIRO, J.A., SEBASTIÃO, A.M. & de MENDONÇA, A. (2003). Participation of adenosine receptors in neuroprotection. **Drug News and Perspectives**, **16**, 80-86.
64. CASCALHEIRA, J.F., SEBASTIÃO, A.M. & RIBEIRO, J.A. (2002). Pertussis toxin-sensitive G proteins mediate the inhibition of basal phosphoinositide metabolism caused by adenosine A<sub>1</sub> receptors in rat hippocampal slices. **Neurochem. Res.**, **27**, 1707-1711.
65. CUNHA, R.A., COELHO, J.E., COSTENLA, A.R., LOPES, L.V., PARADA, A., DE MENDONÇA, A., SEBASTIÃO, A.M. & RIBEIRO, J.A. (2002). Effects of carbamazepine and novel 10,11-dihydro-5H-dibenz[b,f]azepine-5-carboxamide derivatives on synaptic transmission in rat hippocampal slices. **Pharmacol. & Toxicol.**, **90**, 208-213.
66. SEBASTIÃO, A.M., de MENDONÇA, A., MOREIRA, T. & RIBEIRO, J.A. (2001). Activation of synaptic NMDA receptors by action potential-dependent release of transmitter during hypoxia impairs recovery of synaptic transmission on reoxygenation. **J. Neurosci.**, **21**, 8564-8571.
67. SEBASTIÃO, A.M., CUNHA, R.A. DE MENDONÇA, A. & RIBEIRO, J.A. (2001). Modification of adenosine modulation of synaptic transmission in the hippocampus of aged rats. **Br. J. Pharmacol.**, **131**, 1629-1634.
68. SEBASTIÃO, A.M., de MENDONÇA, A. & RIBEIRO, J. A. (2001). Neuroprotection during hypoxic insults: role of adenosine. **Drug Development Research**, **52**, 291-295.
69. RIBEIRO, J.A., CUNHA-REIS, D., LOPES, L.V., COELHO, J.E., COSTENLA, A.R., CORREIA-DE-SÁ, P., CUNHA, R.A., de MENDONÇA, A. & SEBASTIÃO, A.M. (2001). Adenosine receptor interactions in the hippocampus. **Drug Development Research**, **52**, 337-345.
70. SEBASTIÃO, A.M., MACEDO, M.P. & RIBEIRO, J.A. (2000). Tonic activation of A<sub>2A</sub> adenosine receptors unmasks, and of A<sub>1</sub> receptors prevents, a facilitatory action of calcitonin gene-related peptide in the rat hippocampus. **Br. J. Pharmacol.**, **129**, 374-380.
71. SEBASTIÃO, A.M. & RIBEIRO, J.A. (2000). Fine tuning neuromodulation by adenosine. **Trends in Pharmacological Sciences**, **21**, 341-346.
72. de MENDONÇA, A., SEBASTIÃO, A.M. & RIBEIRO, J.A. (2000). Adenosine: does it have a neuroprotective role after all? **Brain Research Reviews**, **33**, 258-274.
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