Breaking the riddle of amylin’s role in nociception: a comprehensive study on the action of amylin in multiple pain models

Scheda informativa

Informazioni relative al progetto

AMYLIN_ROLE_PAIN

ID dell’accordo di sovvenzione: 271738
Progetto concluso

Data di avvio: 1 Agosto 2011
Data di completamento: 31 Luglio 2013

Finanziato da:
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€ 153 047,20

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Coordinato da:
INSTITUTO DE BIOLOGIA MOLECULAR E CELULAR-IBMC
Portogallo

Obiettivo

"Pain is more than a symptom, it can develop into a disabling disease. Amylin is a hormone with several metabolic effects that has shown to also influence the nociceptive system. The literature is however contradicting as some authors claim to find analgesic effects under amylin treatment, while others suggest no action or a pronociceptive role for this hormone. As chronic pain involves pathophysiological mechanisms diverse from the physiological ones occurring in acute pain, it is possible that amylin plays a different role in either condition. Therefore, in this project we aim at determining potential antinociceptive or pronociceptive effects of amylin in multiple pain models in rats (acute, sustained, chronic inflammatory and neuropathic pain). Also, we will evaluate whether the reduction on amylin levels observed in streptozotocin-induced diabetes plays a role on the development of diabetic neuropathy and if these rats show alterations in the dorsal root ganglion amylinergic system. Finally, we will assess whether nociception is altered in animals lacking amylin (KO mice). Standard thermal and mechanical acute pain tests will be employed, as well as the monoarthritis and the spared nerve injury models of chronic inflammatory and neuropathic pain, respectively. To clarify if the effects are really amylin-receptor mediated, we will use a specific amylin receptor antagonist. Amylin's effect on the nociceptive-responsive spinal cord neurons will be analysed by..."
c-Fos protein expression. Colocalization of amylin and opioid receptors in spinal cord dorsal horn neurons will assess if this is the site of amylin synergy with morphine in visceral pain. Amylin is a physiological hormone and its commercial analogue (pramlintide) has proven to be safe in diabetic patients, implying that it may be suitable for treating patients with pain. Therefore we hope to discover analgesic properties in amylin with the current study in the search for new therapeutic alternatives for pain.

**Campo scientifico**

/humanities/languages and literature/literature - general

**Programma(i)**

**FP7-PEOPLE - Specific programme "People" implementing the Seventh Framework Programme of the European Community for research, technological development and demonstration activities (2007 to 2013)**

**Argomento(i)**

**FP7-PEOPLE-2010-IEF - Marie-Curie Action: "Intra-European fellowships for career development"**

**Invito a presentare proposte**

**FP7-PEOPLE-2010-IEF**

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**Meccanismo di finanziamento**

**MC-IEF - Intra-European Fellowships (IEF)**

**Coordinatore**

**INSTITUTO DE BIOLOGIA MOLECULAR E CELULAR-IBMC**

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Contatto amministrativo

**Claudia Ferreira (Dr.)**