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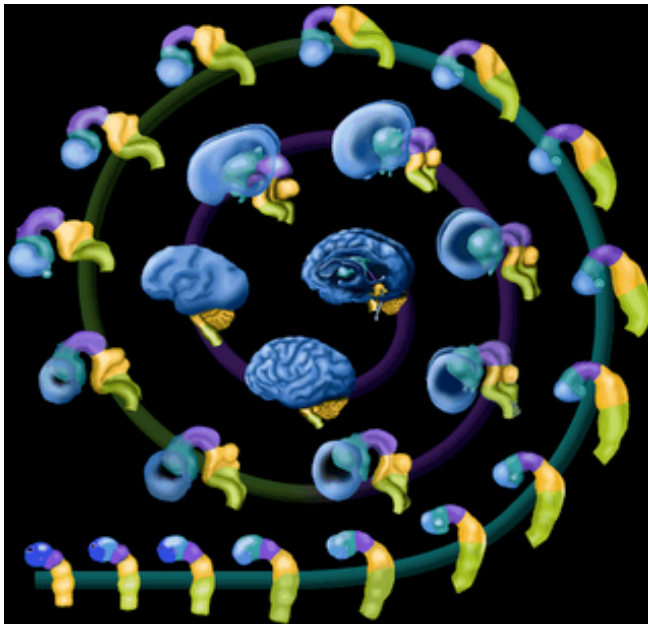
Ok

RNA recentemente descoberto conduz o desenvolvimento do cérebro

Quinta-feira, Abril 15, 2010

Newly Discovered RNA Steers Brain Development

ScienceDaily (Apr. 14, 2010) — ***How does the brain work? This question is one of the greatest scientific mysteries, and neurobiologists have only recently begun to piece together the molecular building blocks that enable human beings to be "thinking" animals.***



Source/Fone: [The Visible Embryo](#)

One fundamental property of the mammalian brain is that it continues to develop after birth, and one of the biggest drivers of the formation of new links between neurons is experience. Every time a baby sticks her finger on a pin or laughs in response to an adult's embellished gestures, a cascade of genetic activity is triggered in her brain that results in new, and perhaps even lifelong, synaptic connections.

New research from the lab of Michael Greenberg, Nathan Marsh Pusey professor and chair of neurobiology at HMS, in collaboration with bioinformatics specialist and neuroscientist Gabriel Kreiman, assistant professor of ophthalmology at Children's Hospital, Boston, has found that **a particular set of RNA molecules widely considered to be no more than a**



Enézio E. de Almeida Filho
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Por que sou 'pós-darwinista'? Porque já fui evolucionista de carteirinha. Hoje, sou cético da teoria macroevolutiva como verdade científica. Contudo, meu ceticismo ao 'dogma central' darwinista não é baseado em relatos da criação de textos sagrados. Foi a séria e conflituosa consideração do debate que ocorre intramuros e nas publicações científicas há muitos anos sobre a insuficiência epistêmica da teoria geral da evolução. Eu fui ateu marxista-leninista. Hoje, não tenho mais fé cega no ateísmo. Não creio mais na interpretação literal dos dogmas de Darwin aceitos 'a priori' e defendidos ideologicamente com unhas e dentes pela Nomenclatura científica. A Ciência me deu esta convicção. Aprendi na universidade: quando uma teoria científica não é apoiada pelas evidências, ela deve ser revista ou simplesmente descartada. Sou pós-darwinista me antecipando à iminente e eminente ruptura paradigmática em biologia evolutiva. Chegou a hora de dizer adeus a Darwin. Mestre, Doutorando (in absentia) em História da Ciência – PUC-SP. CV Plataforma Lattes: <http://lattes.cnpq.br/6602620537249723>

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genomic oddity [SIC] are actually major players in brain development -- and are essential for regulating the process by which neurons absorb the outside world into their genetic machinery.

"This discovery may inform disorders of cognition such as autism spectrum disorders," says Greenberg. "It's incredibly important to know all about the brain's genetic regulatory mechanisms in order to think more deeply about how to develop therapies for treating these sorts of conditions."

This research will be published online April 15 in the journal Nature.

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Read more here/Leia mais aqui: [Science Daily](#)

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Widespread transcription at neuronal activity-regulated enhancers

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Abstract

We used genome-wide sequencing methods to study stimulus-dependent enhancer function in mouse cortical neurons. We identified ~12,000 neuronal activity-regulated enhancers that are bound by the general transcriptional co-activator CBP in an activity-dependent manner. A function of CBP at enhancers may be to recruit RNA polymerase II (RNAPII), as we also observed activity-regulated RNAPII binding to thousands of enhancers. Notably, RNAPII at enhancers transcribes bi-directionally a novel class of enhancer RNAs (eRNAs) within enhancer domains defined by the presence of histone H3 monomethylated at lysine 4. The level of eRNA expression at neuronal enhancers positively correlates with the level of messenger RNA synthesis at nearby genes, suggesting that eRNA synthesis occurs specifically at enhancers that are actively engaged in promoting mRNA synthesis. These findings reveal that a widespread mechanism of enhancer activation involves RNAPII binding and eRNA synthesis.

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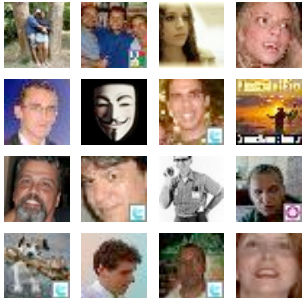
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