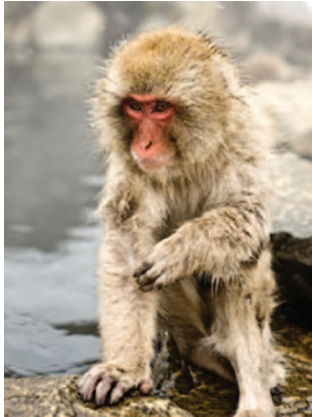


doi:10.1038/pr.2013.118

Circadian-gene expression

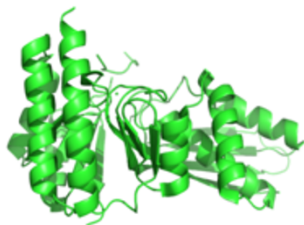


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Expression of the circadian gene *Npas2* is altered in fetal life with maternal exposure to a high-fat diet, by virtue of changes in the fetal histone code. Suter and colleagues postulated that these disruptions may persist postnatally. Indeed, in baby macaques, altered *Npas2* expression seems to correspond with a change in the histone code within the *Npas2* promoter.

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Mevalonate pathway and inflammation



Mevalonate kinase deficiency (MKD) is a rare genetic autoinflammatory disease caused by blockage of MK, an enzyme, in the pathway of cholesterol and isoprenoids. Marcuzzi and coauthors investigated dysregulation of cytokine and chemokine expression in the serum of MKD patients and compared the results with those in a mouse model of MKD. Their findings suggest that some cytokines and chemokines may be MKD-specific. Moreover,

isoprenoids could be considered potential therapeutic molecules for the disease. Image by M.A. Lowder: ribbon diagram of mevalonate kinase from *Staphylococcus aureus*. Created using PyMOL, from PDB file 2X7I (CC-BY-3.0 (<http://creativecommons.org/licenses/by/3.0>)), via Wikimedia Commons.

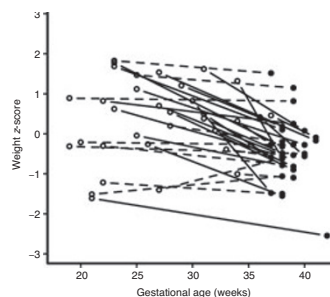
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Placental miRNA expression



Maccani *et al.* sought to identify relationships between expression of placental microRNA (miRNA) and newborn neurobehavior as assessed using the NICU Network Neurobehavioral Scales. Their results suggest that placental miRNA expression is associated with early neurobehavioral outcomes and that miRNAs in the placenta may contribute to the developmental origins of infant neurobehavior. See page 272

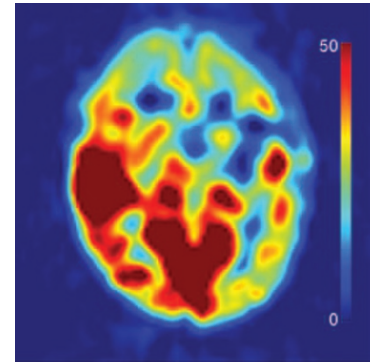
Growth abnormalities



Cnota and colleagues hypothesized that during late gestation fetal-growth trajectory declines in infants with hypoplastic left heart syndrome. They

found that a majority of fetuses with the syndrome exhibited lower growth velocity at that stage, suggesting that growth abnormalities manifest *in utero*. See page 284

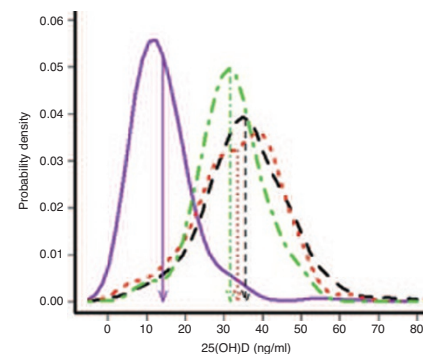
Neonatal stroke imaging



Arterial spin labeling magnetic resonance imaging is a noninvasive method for evaluating brain perfusion in newborns. De Vis *et al.* found that this technique reliably detects hypo- and hyperperfusion in perinatal arterial ischemic stroke patients and can be used to monitor the evolution of perfusion after neonatal stroke.

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Vitamin D and food allergy



The combined roles of pre- and postnatal vitamin D status in the development of food sensitization and food allergy remains understudied. Using the Boston Birth Cohort, Liu and coinvestigators found that persistence of low vitamin D status from birth to early childhood was associated with a greater risk of food sensitization.

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