

doi:10.1038/pr.2015.37

## VEGF in the developing human eye



To identify changes in vascular endothelial growth factor (VEGF) gene expression during normal human development, Ma and coinvestigators measured VEGF messenger RNA (mRNA) and protein in 10- to 24-week gestation fetal vitreous, retina, and serum. They found that VEGF<sub>121</sub> mRNA and protein concentrations increased with increasing gestational age in the developing human retina, and speculate that preterm delivery affects production of this growth factor. [See page 500](#)

## Etiology of asthma



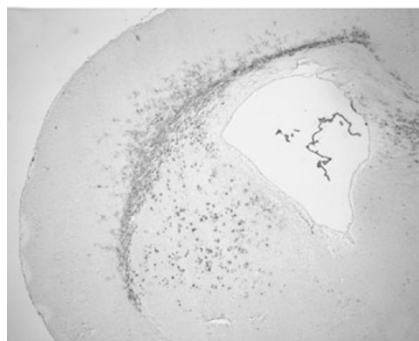
The etiology and pathogenesis of bronchial asthma remain unclear. Ren and colleagues investigated genetic and immunological risk factors related to bronchial asthma onset in children. Their results show that levels of *TRPV1* gene expression and T helper types 1 and 2 cytokines have a close relationship to asthma onset in children. This lends support to the hypothesis that targeted molecular treatment is possible in bronchial asthma. [See page 506](#)

## Inspiratory muscle relaxation in CF



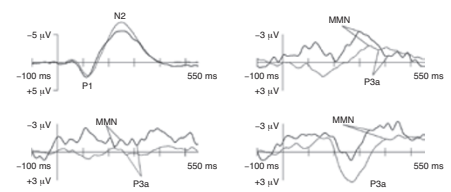
Respiratory muscle dysfunction contributes significantly to the development and severity of cystic fibrosis (CF). The time constant ( $\tau$ ) of inspiratory muscle relaxation is a simple bedside test of muscle fatigue. Dassios *et al.* compared patients with CF aged 7–34 years with healthy, age-matched controls with respect to  $\tau$ . They found that the patients with CF had significantly higher  $\tau$  than controls; however, the correlation of  $\tau$  with expiratory flow function was modest. [See page 541](#)

## Nitric oxide and neuroprotection



Growing evidence from preclinical models of brain injury in both adult and neonatal rodents supports the view that nitric oxide (NO) can promote neuroprotection. In a model of intrauterine growth restriction induced by protracted gestational hypoxia and leading to diffuse white matter injury, Pham and colleagues subjected neonatal rats to low-dose inhaled NO. Inhaled NO seemed to ameliorate hypoxia-associated learning disabilities. [See page 563](#)

## Sound perception and cognitive ability



Auditory event-related potentials (AERPs) are neurophysiological correlates of sound perception. Hövel and colleagues hypothesized that preterm-born children have AERP scores at preschool age that indicate cognitive ability. They found that neonatal brain damage was associated with a negative displacement of AERP curves. Neonatal morbidity mainly affects early cortical auditory encoding, and immaturity and brain damage additionally influence higher cortical functions of auditory perception and distraction. [See page 570](#)

## Allergies and primary immune thrombocytopenia



Chiang and coauthors investigated the association between common allergic diseases and the subsequent risk of developing primary immune thrombocytopenia (ITP) during childhood. They examined 1,203 children diagnosed with ITP between 1998 and 2008, as well as 4,812 frequency-matched controls. Children with every type of allergic disease examined in this study, except asthma, exhibited an increased risk of developing ITP. [See page 597](#)