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IN BRIEF

GENETICS

Eight new loci associated with T2DM in East Asians

A meta-analysis of eight genome-wide association studies, followed by *in silico* and *de novo* replication analyses using independent data sets, revealed eight new loci associated with type 2 diabetes mellitus (T2DM) susceptibility in East Asian individuals. The association between five of these loci and metabolism has not been previously reported and highlights new pathways that might help to understand the pathophysiology of T2DM in the East Asian population.

Original article Cho, Y. S. *et al.* Meta-analysis of genome-wide association studies identifies eight new loci for type 2 diabetes in East Asians. *Nat. Genet.* **44**, 67–72 (2011)

NUTRITION

High prevalence of vitamin D deficiency in Australian adults

Nearly one-third of adults aged ≥ 25 years in Australia have vitamin D deficiency, according to an evaluation of 11,247 adults who were enrolled in the AusDiab study. The prevalence of vitamin D deficiency (defined as a serum concentration of 25-hydroxyvitamin D < 50 nmol/l) was 31% in this population. Vitamin D deficiency was more prevalent in women than in men (39% versus 22%) and was increased in people of non-European ancestry, in those with obesity or low physical activity, in elderly individuals and in those with a high level of education. Prevalence also increased in winter–spring compared with summer–autumn.

Original article Daly, R. M. *et al.* Prevalence of vitamin D deficiency and its determinants in Australian adults aged 25 years and older: a national, population-based study. *Clin. Endocrinol. (Oxf.)* doi:10.1111/j.1365-2265.2011.04320.x

OBESITY

New role for synphilin-1 in food intake and obesity

Transgenic mice in which the protein synphilin-1 is expressed in brain neurons display increased food intake, body weight and body adiposity and develop hyperinsulinemia, hyperleptinemia and impaired glucose tolerance. Restriction of food availability to the levels consumed by nontransgenic mice prevents the appearance of these features. Synphilin-1 is highly expressed in hypothalamic nuclei involved in feeding regulation and is endogenously expressed in response to fasting. These findings show that synphilin-1 has a previously unrecognized role in the central regulation of energy balance.

Original article Li, X. *et al.* A novel obesity model: synphilin-1-induced hyperphagia and obesity in mice. *Int. J. Obes. (Lond.)* doi:10.1038/ijo.2011.235

DIABETES

Heparan sulfate and heparanase in β -cell survival and death

Ziolkowski *et al.* show that mouse pancreatic β cells that lose expression of heparan sulphate die *in vitro*, but cell death is prevented by addition of this glycosaminoglycan to the culture medium. In nonobese, diabetic (NOD) mice, autoimmune destruction of β cells was associated with production of heparanase, an enzyme that degrades heparan sulphate. Treatment of NOD mice with a heparanase inhibitor prevented loss of heparan sulphate in islets and slowed the development of type 1 diabetes mellitus.

Original article Ziolkowski, A. F. *et al.* Heparan sulfate and heparanase play key roles in mouse β cell survival and autoimmune diabetes. *J. Clin. Invest.* doi:10.1172/JCI46177