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THEMED SECTION: ADVANCES IN NUTRITIONAL PHARMACOLOGY

Editorial

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A themed section in this issue of Br J Pharmacol, on 'Advances in Nutritional Pharmacology', provides a valuable and timely update on progress in this area.
The value of dietary components to improvement in health and, particularly, to prevention of cardiovascular disease and cancer, is frequently reported in the media and therefore often captures the attention of the wider public. Understanding the pharmacological mechanisms by which nutritional elements confer their health benefits enables us to keep the public informed, but also aids in the identification of new targets for drug development. In recent years there has been significant progress in this field.
Four rapidly developing areas are reviewed. Vosper (2009) covers the identification of a receptor for niacin and the subsequent development of selective agonists as lipid lowering agents. Wu-Wong (2009) describes the development of new Vitamin D analogues for the treatment of cardiovascular disease. de Roos *et al.* (2009) provide detailed insight into how omega-3 fatty acids, also known as longchain n-3 polyunsaturated fatty acids (PUFAs) protect against cardiovascular disease. Zhou *et al.* (2009) cover the mechanisms underlying the beneficial effects of resveretrol in protection against cancer.
These reviews are complimented by three key original articles focusing on endogenous mechanisms of weight control involving endocannabinoids (Izzo *et al.*, 2009), a circulating protein, the soluble leptin receptor (Zhang & Scarpace, 2009) and a treatment, zinc plus cyclo-(His-Pro) (CHP), known to increase insulin metabolism (Song *et al.*, 2009).
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The value of dietary components to improvement in health and, particularly, to prevention of cardiovascular disease and cancer, is frequently reported in the media and therefore often captures the attention of the wider public. Understanding the pharmacological mechanisms by which nutritional elements confer their health benefits enables us to keep the public informed, but also aids in the identification of new targets for drug development. In recent years there has been significant progress in this field.

A themed section in this issue of Br J Pharmacol, on 'Advances in Nutritional Pharmacology', edited by Cherry Wainwright, aims to provide a valuable and timely update on progress in this area.

This issue includes several reviews that provide an update in four rapidly developing areas. Vosper (2009) has written a narrative tracking the research that led to the identification of a receptor for niacin and the subsequent development of selective agonists as lipid lowering agents. Within this review, the benefits and pitfalls of niacin receptor agonists are discussed, alongside a consideration of the impact of blocking their undesirable effects, such as skin flushing. Two further reviews describe the development of new Vitamin D analogues for the treatment of cardiovascular disease(Wu-Wong, 2009) and provide detailed insight into how omega-3 fatty acids, also known as longchain n-3 polyunsaturated fatty acids (PUFAs) protect against cardiovascular disease (de Roos *et al.*, 2009). The fourth review provides greater understanding of the mechanisms underlying the beneficial effects of resveretrol in protection against cancer (Zhou, 2009).

These reviews are complimented by three key original articles focusing on endogenous mechanisms of weight control. In an elegant study in lean and fatty mice with diet induced obesity, Izzo *et al.* (2009) have provided evidence to support the idea that dysregulation of peripheral endocannabinoids can contribute to obesity. In a further in vivo study, direct evidence is provided that a circulating protein, the soluble leptin receptor, may play a regulatory role in energy homeostasis and weight gain by neutralizing leptin (Zhang &

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Scarpace, 2009). Finally Song *et al*. (2009) have demonstrated in both diabetic and non-diabetic overweight aged rats that zinc plus cyclo-(His-Pro) (CHP), a treatment known to increase insulin metabolism, improves weight control through reducing food intake and altering the balance between plasma leptin and adiponectin levels, suggesting this may be a possible treatment for overweight and obese patients.

References

Izzo AA, Piscitelli F, Capasso R, Aviello G, Romano B, Borrelli F *et al*. (2009). Peripheral endocannabinoid dysregulation in obesity: relation to intestinal motility and energy processing induced by food deprivation and re-feeding. *Br J Pharmacol* **158**: 451–461.

de Roos B, Mavrommatis Y, Brouwer IA (2009). Long-chain n-3 polyunsaturated fatty acids: new insights into mechanisms relating to inflammation and coronary heart disease. *Br J Pharmacol* **158**: 413–428.

Song MK, Rosenthal MJ, Song AM, Uyemura K, Yang H, Ament ME *et al*. (2009). Body weight reduction in rats by oral treatment with zinc plus cyclo-(His-Pro). *Br J Pharmacol* **158**: 442–450.

Vosper H (2009). Niacin: a re-emerging pharmaceutical for the treatment of dyslipidaemia. *Br J Pharmacol* **158**: 429–441.

Wu-Wong JR (2009). Potential for vitamin D receptor agonists in the treatment of cardiovascular disease. *Br J Pharmacol* **158**: 395–412.

Zhang J, Scarpace, PJ (2009). The soluble leptin receptor neutralizes leptin-mediated STAT3 signalling and anorexic responses *in vivo*. *Br J Pharmacol* **158**: 475–482.

Zhou R, Fukui M, Choi HJ, Zhu BT (2009). Induction of a reversible, non-cytotoxic S-phase delay by resveratrol: implications for a mechanism of lifespan prolongation and cancer protection. *Br J Pharmacol* **158**: 462–474.