



Review

Dual control of vascular tone and remodelling by ATP released from nerves and endothelial cells

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Abstract:

Purinergic signalling is important both in short-term control of vascular tone and in longer-term control of cell proliferation, migration and death involved in vascular remodelling. There is dual control of vascular tone by ATP released from perivascular nerves and by ATP released from endothelial cells in response to changes in blood flow (shear stress) and hypoxia. Both ATP and its breakdown product, adenosine, regulate smooth muscle and endothelial cell proliferation. The involvement of these regulatory mechanisms in pathological conditions, including hypertension, atherosclerosis, restenosis, diabetes and vascular pain, are discussed.

Key words:

atherosclerosis, ATP, hypertension, pain, purinergic, restenosis
