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## A heat released substance from rat ileal muscle.

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### **Abstract**

Change in body temperature is reported to induce changes in muscle contraction by unconfirmed mechanisms. Therefore, the changes in isolated rat ileal muscle contractions at different surrounding temperatures were studied. The contraction was decreased by increase of the surrounding temperature from 37 degrees C to 40 degrees C, while it was increased by decrease of the temperature to 30 degrees C. Further, bathing the muscle in a conditioned medium prepared by incubation of the ileal muscle at 40 degrees C caused a decrease in contraction at a surrounding temperature of 37 degrees C. This indicates that increase of the temperature around muscles induces a release of the substance that causes a decrease in the contractile response. The effects of this heat-released substance were not blocked by propranolol, phentolamine and naloxone, or edrophonium, which indicates that these effects are not produced through an interaction with cholinesterase enzyme, alpha or beta adrenergic receptors or opiate receptors