

Correspondence

Reply

To the Editor:

We appreciate the interesting comments by Dr Kwatra.¹ Indeed, we also hoped that the identification of the function of artemin, a substance P (SP)–inducible neurotrophic factor, in skin would lead to new effective therapies for intractable warmth-provoked pruritus, especially if mechanisms to regulate the adverse effect of artemin through decreasing its expression could be found. As Dr Kwatra pointed out, blockade of neurokinin-1 receptor (NK1R) offers therapeutic potential for such cases of pruritus. To provide a better understanding of our study,² we offer further information about the artemin-inducible concentration of SP. In our *in vitro* study SP increased the expression of artemin mRNA (see Fig 1, C, in Murota et al²). Artemin mRNA expression levels in the presence of SP at 1×10^{-6} or 1×10^{-4} mol/L were statistically different than control levels, as determined by means of 1-way ANOVA and the Bonferroni multiple comparison test. A low concentration (1×10^{-10} mol/L) of SP also significantly increased the expression of artemin mRNA compared with that seen in untreated control subjects according to the results of an unpaired *t* test (artemin/glyceraldehyde-3-phosphate dehydrogenase ratios [mean $\pm$ SD] in the 1×10^{-10} mol/L SP-treated and control groups, 0.26 ± 0.07 and 0.62 ± 0.16 , respectively; $P = .0001$). SP was dissolved

before use to avoid degradation. Thus we conclude that relatively low concentrations of SP had an effect on the increased expression of artemin *in vitro*. Although we did not examine the involvement of NK1R in the SP-mediated increase in expression of artemin *in vitro* and *in vivo*, this interesting issue will be the subject of future investigations, especially in light of the availability of an NK1R inhibitor, as Dr Kwatra mentioned in his comment.

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