

Correspondence

Role of neurokinin-1 receptor in patients with artemin-induced warmth-provoked pruritus

To the Editor:

I read with great interest the study by Murota et al¹ implicating a role for artemin, which is released by dermal fibroblasts in response to substance P (SP), in patients with warmth-provoked pruritus. The authors suggest that artemin might be a novel target for treating pruritic skin disorders, particularly atopic dermatitis. Although the authors have extensively studied the interplay between artemin, SP, and end-stream peripheral nerve sprouting, the role of neurokinin-1 receptor (NK1R), the main physiologic target of SP,² remains unexplored. Because NK1R blockade has been shown to relieve pruritus,³ it is important to know whether SP is acting through NK1R to increase artemin gene expression. This is especially important because there is a US Food and Drug Administration–approved NK1R antagonist (aprepitant)⁴ already available, whereas agents to block artemin are not available at this time. Interestingly, the dose of SP that produced a maximal increase in artemin gene expression (see Fig 1, C, in the article by Murota et al¹) was very high (10^{-4} mol/L), given that SP binds to NK1R with a dissociation constant in the subnanomolar range.⁵ Perhaps the SP used by the authors was degraded or the effect of SP on artemin is not mediated by NK1R. Further clarification is

needed from the authors regarding the mechanism by which SP produces its effect on artemin.

Shawn G. Kwatra, MD

From the Department of Internal Medicine, Saint Joseph Hospital, Chicago, Ill. E-mail: kwatra.shawn@gmail.com.

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