Reviewer's report

Title: Differential expression of the capsaicin receptor TRPV1 and related novel receptors TRPV3, TRPV4, and TRPM8 in human traumatic and diabetic neuropathy

Version: 1 Date: 10 December 2006
Reviewer: Jon Levine

Reviewer's report:

General

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

In this study, Facer and colleagues have evaluated the differential expression of the capsaicin receptor TRPV1 and related novel receptors TRPV3, TRPV4, and TRPM8 in human traumatic and diabetic neuropathy. In this descriptive study, they find that TRPV1 and TRPV3 were significantly increased in injured brachial plexus nerves, and TRPV1 in hypersensitive skin after nerve repair, whilst TRPV4 was unchanged. TRPM8 was detected in a few medium diameter DRG neurons, and was unchanged in DRG after avulsion injury, but was reduced in axons and myelin in injured nerves. In diabetic neuropathy skin, TRPV1 expressing sub- and intra-epidermal fibres were decreased, as was expression in surviving fibres. TRPV1 was also decreased in non-diabetic neuropathic nerves. Immunoreactivity for TRPV3 was detected in basal keratinocytes, with a significant decrease of TRPV3 in diabetic skin. TRPV1-immunoreactive nerves were present in injured dorsal spinal roots and dorsal horn of control spinal cord, but not in ventral roots, while TRPV3 and TRPV4 were detected in spinal cord motorneurons. The work is well done, and while mainly descriptive has value to the field of TRP channels in painful peripheral neuropathy. One area where the authors might improve their impact would be to compare their findings of distribution in the peripheral nervous system with the literature. The new antibodies that they have generated would be immensely useful to the field. Thus, availability of these antibodies to the community would be a tremendous service.

Discretionary Revisions (which the author can choose to ignore)

What next?: Accept after discretionary revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:

I declare that I have no competing interests.