Supplementary Information for

Identification of an epidermal keratinocyte AMPA glutamate receptor regulated in dermatopathies associated with sensory abnormalities

David Cabañero[1,2]♯, Takeshi Irie[3]♯, Marta Celorrio[1]♯, Christopher Trousdale[1], David M. Owens[4,5], David Virley[6], Phillip J. Albrecht[7], Michael J. Caterina[8], Frank L. Rice[7], Jose A. Morón[1]*

* Corresponding Author: Dr Jose A. Morón, Department of Anesthesiology, Washington University School of Medicine, Washington University Pain Center

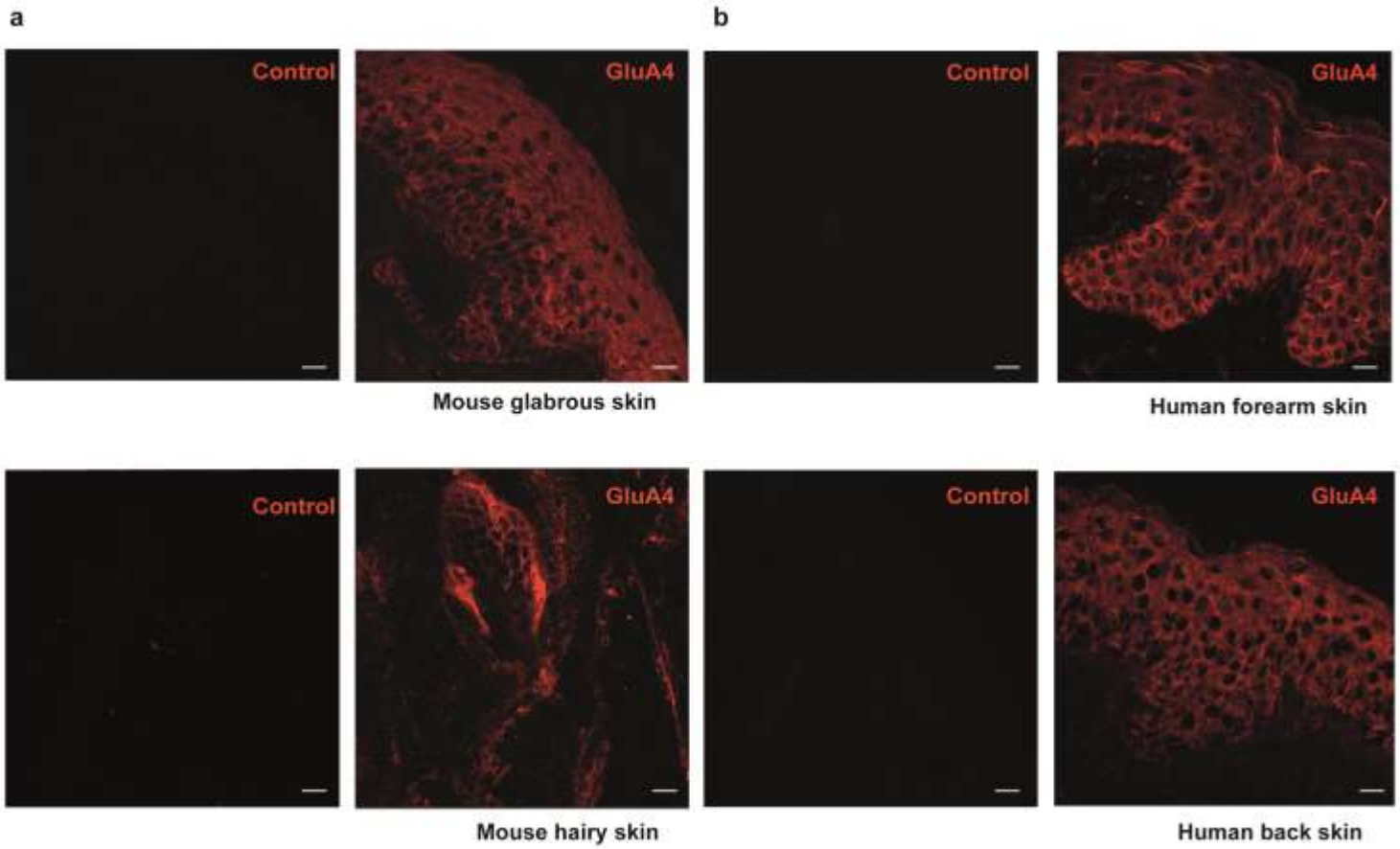
E-mail: jmoron-concepcion@wustl.edu; Tel: 314-362-0078

Supplementary Figure 1. Negative controls for the specificity of GluA4 antibody staining in mouse and human skin specimens.

Supplementary Figure 2. Sequencing of mouse CD34+ keratinocyte *Gria4* RTPCR.

Supplementary Figure 3. Comparisons of GluA4-IL in skin biopsies from 5 normal subjects and 5 age-matched postherpetic neuralgia (PHN) subjects.

Supplementary Figure 1



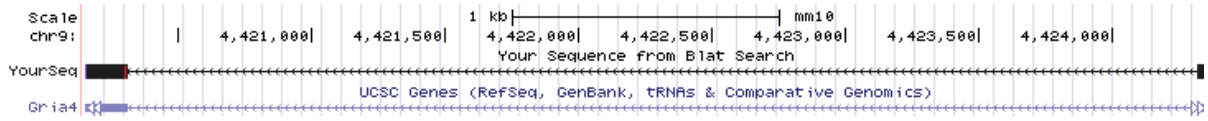
Supplementary Figure 1. Negative controls for the specificity of the GluA4 antibody staining in mouse and human skin specimens.

S1a. Representative confocal images in the absence (control) or presence (GluA4) of the c-terminus GluA4 antibody (anti-GluA4C) in specimens of mouse glabrous and hairy skin.

S1b. Representative confocal images in the absence (control) or presence (GluA4) of the c-terminus GluA4 antibody (anti-GluA4C) in specimens of human forearm and back skin.

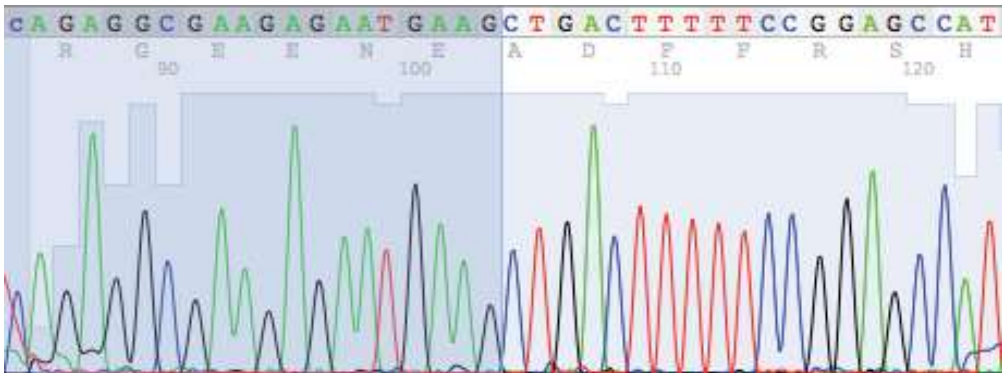
Scale bar = 20μm

Supplementary Figure 2a



Supplementary Figure 2b

CAGAGGCGAAGAGAATGAAGCTGACTTTTTCCGAAGCCAT

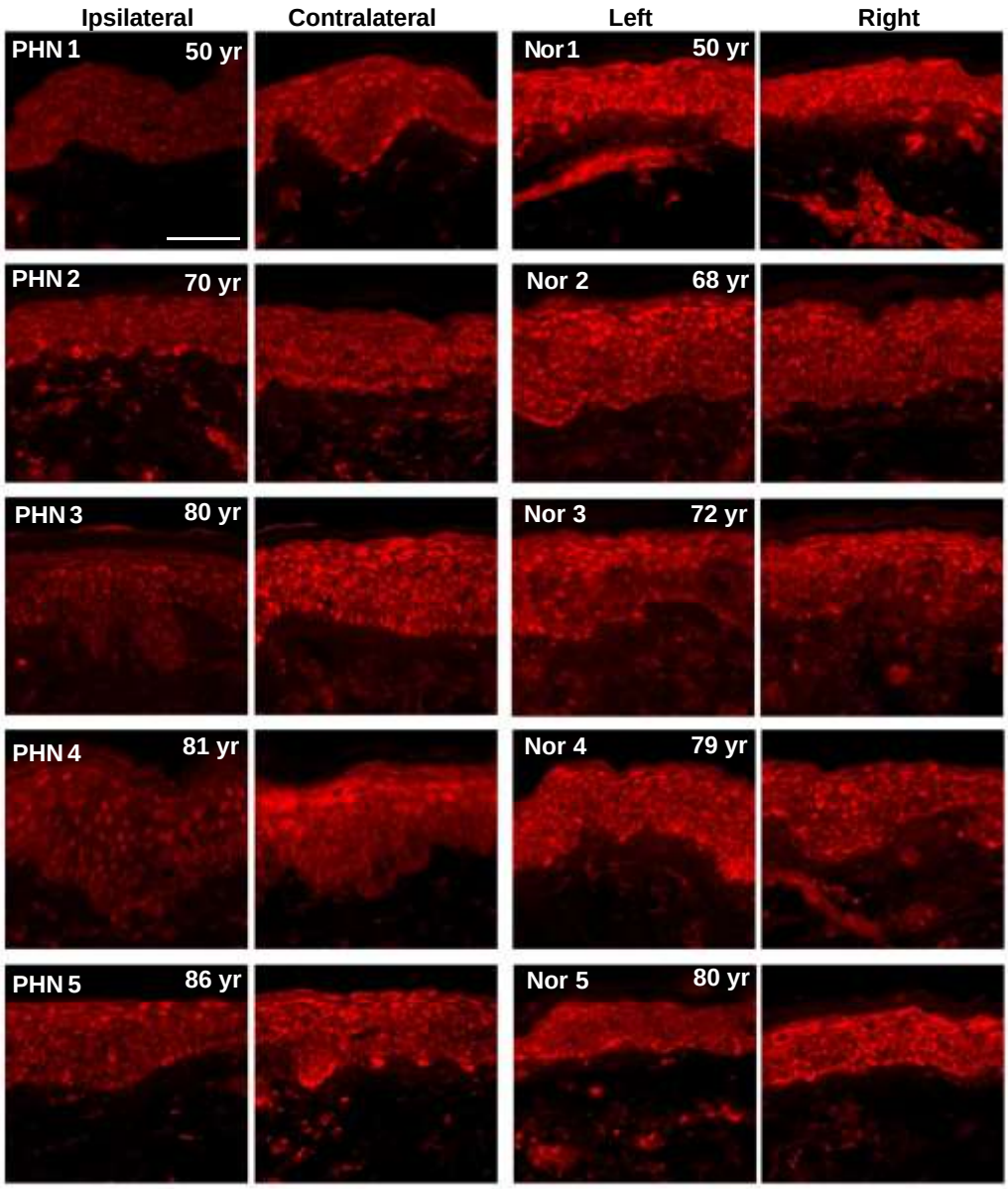


Supplementary Figure 2. Mouse CD34+ keratinocyte *Gria4* RTPCR sequencing.

S2a. The TOPO cloned *Gria4* ex18-ex19 RTPCR product insert sequence was BLAT aligned against the mouse genome, using the UCSC genome browser. Note that the *Gria4* locus is on the antisense strand, with exon 18 represented on the right, and exon 19 on the left.

S2b. The sequence of the RTPCR product at the splice junction between exon 18 and exon 19 is identical to other RefSeq entries of *Gria4* splice variants employing these exons. The sequence in black above the chromatogram is the sequence of the aligned region from the UCSC genome.

Supplementary Figure 3



Supplementary Figure 3. Comparisons of GluA4-IL in skin biopsies from 5 normal subjects and 5 age-matched postherpetic neuralgia (PHN) subjects. All biopsies are labeled against GluA4N, except PHN4 which is against GluA4C. The intensity of GluA4-IL is comparable in mirror image right and left side biopsies from each of the normal subjects. The intensity of GluA4-IL is consistently lower in the PHN biopsies than in the mirror image unafflicted biopsies.