Serotonergic mechanisms of trigeminal meningeal nociception: Implications for migraine pain

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Supplementary Figure 1

(A) Effect of 100 μM histamine on multiunit activity density in the nervus spinosus.
(B) Effect of pH 5.4 on nervus spinosus multiunit activity density.
(C) Histograms showing the effects on spike frequency of 100 μM histamine (126±17%, p=0.16, n=6), pH 5.4 (1053±474%, p=0.0039, n=9) and capsaicin 2 μM (637±323%, p=0.0313, n=7). Notice strong facilitation of firing by acid pH. *, p<0.05, **, p<0.001.
Supplementary Figure 2

(A) From 43 trigeminal neurons, 11 responded to 20 μM 5-HT (26 %) by Ca2+ transients (average of 5 traces ± SEM) in the normal basic solution. However, none of these neurons responded to 5-HT 5 min later when Ca2+ was omitted from basic solution indicating that the 5-HT responses were mediated by Ca2+ flux from the extracellular space. This is consistent with the role of ligand-gated 5-HT3 receptors expressed in trigeminal neurons.

(B) In contrast to neurons, in trigeminal satellite glial cells (SGCs), not only the first (average of 5 traces ± SEM) test pulse of 20 μM 5-HT in normal basic solution but also the second application 5-HT in nominally Ca2+ free solution still induced responses with amplitude 50.4 ± 7.0 % (n=of th e first one suggesting that the major part of response was mediated by Ca2+ release from the intracellular stores.