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[\[PDF \(293K\)\]](#) [\[References\]](#)**Prostaglandin facilitates afferent nerve activity via EP₁ receptors during urinary bladder inflammation in rats**Makoto IKEDA¹⁾, Masahito KAWATANI¹⁾, Takayuki MARUYAMA²⁾ and Hiroko ISHIHAMA¹⁾

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ABSTRACT

We examined the effects of loxoprofen, a cyclooxygenase inhibitor, and ONO-8711, an EP₁-receptor antagonist, on afferent nerve activity during acetic acid (AA, 0.1% v/v)-induced inflammation of the rat urinary bladder. Distension stimulation was performed (vesical pressure of 30 cm H₂O) for 2 min. The neuronal discharge was recorded from L6 dorsal root filaments. The discharge was observed just after the beginning of distension and increased gradually thereafter. When the vesical pressure returned to control value, the discharge diminished abruptly. AA infusion increased the total number of spikes to 198 ± 38.8% of control values. AA infusion also produced asynchronous discharge in 39% of the animals. Loxoprofen administration (1 mg/kg, i.v.) reduced the number of spikes to 40.3 ± 14.8% of control values. ONO-8711 administration (1 and 3 mg/kg, i.v.) reduced the number of spikes to 81.6 ± 1.6% and 32.2 ± 7.4% of control values, respectively. These data indicate that loxoprofen or EP₁-receptor antagonist inhibit the inflammation-related neuronal activity. EP₁ receptors in the peripheral afferent nerve terminal and/or urothelium may facilitate the primary afferent nerve activity, which elicits the inflammation-induced micturition reflex.

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