

| Press Release

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International Institute for Integrative Sleep Medicine, University of Tsukuba

Elucidation of the neuroscience mechanisms behind anti-itch action

Hiroshi Nagase (Professor / Principal Investigator, International Institute for Integrative Sleep Medicine, WPI-IIS, University of Tsukuba), in collaboration with Sarah E. Ross and her colleagues at the University of Pittsburgh, have succeeded in elucidating the mechanism of “itch”.

At the same time as discovering nerves (B5-I neurons) that were previously not known to be involved in the transmission of itch, it was found that the endogenous opioid dynorphin acts as a neuromodulator to inhibit itch.

In this study, nalfurafine, which was developed by Hiroshi Nagase during his time at Toray Industries, Inc., provided a major contribution to unraveling the mechanism for itch.

These research results were published online in *Neuron* on April 10, 2014, and will appear in the May 14, 2014 print edition.

Publication Information

“Dynorphin Acts as a Neuromodulator to Inhibit Itch in the Dorsal Horn of the Spinal Cord”

Adam P. Kardon, Erika Polgár, Junichi Hachisuka, Lindsey M. Snyder, Darren Cameron, Sinead Savage, Xiaoyun Cai, Sergei Karnup, Christopher R. Fan, Gregory M. Hemenway, Carcha S. Bernard, Erica S. Schwartz, **Hiroshi Nagase**, Christoph Schwarzer, Masahiko Watanabe, Takahiro Furuta, Takeshi Kaneko, H. Richard Koerber, Andrew J. Todd, Sarah E. Ross

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