changes in the body weight and blood biochemistry in rats. Aloesin were given orally at a rate of 100 mg/kg every 12 hours for 15 days. The rats in the control group received isotonic saline. The body weight and food consumption were measured every 12 hrs immediately prior to each treatment throughout the study period. At the end of treatment, blood biochemistry was measured. The final mean body weight was not altered at the end of the aloesin treatment as compared with control. Subchronic administration of a relatively high dose of aloesin did not appear to cause adverse effects as the biochemical parameter values including AST, ALT, albumin, glucose, BUN and creatinine levels were not altered as compared with the control values. (This work was supported by a grant from the Ministry of Health & Welfare 02-PJ1-PG4-PT04-0002)

[PB1-5] [04/18/2003 (Fri) 09:30 - 12:30 / Hall P]

Histamine Signaling Pathway in Sensory Neurons is Similar to Bradykinin

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Histamine is found in most tissues of the body and activates polymodal nociceptors via unmyelinated afferent C-fibres. We have demonstrated that bradykinin, acting at B2 bradykinin receptors, excites sensory nerve endings by activating capsaicin receptors via production of 12-lipoxygenase metabolites of arachidonic acid in dorsal root ganglion. Histamine is known to the activator of phospholipase A2- arachidonic acid pathway via a G-protein- coupled H1 receptor. We, therefore, hypothesized that histamine activates capsaicin receptors by inducing the production of fatty acid agonists of capsaicin receptors in dorsal root ganglion neurons. This study shows that histamine evokes transient increases of intracellular Ca2+ concentration ([Ca2+]i) in a dose-dependent manner by stimulating H1 histamine receptor in dorsal root ganglion neurons. Histamine-induced [Ca2+]i increase was dependent on extracellular Ca2+ and was reversibly inhibited both by the capsazepine and by the SC0030, competitive antagonists of capsaicin receptor. The quinacrine and the nordihydroguaiaretic acid blocked histamine-induced Ca2+ influx in dorsal root ganglion neurons, but not the indomethacin. These results suggest that histamine increases Ca2+ influx by activating capsaicin channel via phospholipase A2- lipoxygenase pathway in neuronal cells, like bradykinin.

[PB1-6] [04/18/2003 (Fri) 09:30 - 12:30 / Hall P]

Cloning of a novel ion channel candidate by in silico gene mining

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Capsaicin, a pungent ingredient in chili pepper, is known to excite sensory neurons that mediate pain sensation. This effect of capsaicin is determined by unique receptors and the capsaicin receptor (transient receptor potential subfamily V, member 1 (TRPV1)) was cloned recently. TRPV1 contains six transmembrane domains and three ankyrin repeats at N-terminal. This characteristic architecture is common in other ion channels in TRPV families. Taking notice of these structural similarities, seeking of novel ion channel candidates residing in genome