

## S18-3 Activation and regulation of nociceptive TRP channels, TRPV1 and TRPA1

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TRPV1 has been suggested to be involved in diabetic neuropathy. We found that TRPV1 activities were sensitized through PKC-dependent phosphorylation in the hypoxic/hyperglycemic conditions which are frequently observed in diabetes. Molecular mechanisms for detecting alkaline pH are not known. We found that intracellular alkalization can activate TRPA1. Intraplantar injection of ammonium chloride into the mouse hind paw caused pain-related behaviors, which were not observed in TRPA1-deficient mice, suggesting that alkaline pH causes pain sensation through activation of TRPA1.