This seminar will present psychophysical data concerning the heterogeneity of primary afferent fibers types affected by cancer-induced peripheral neuropathy (CIPN) in patients who have received or who are receiving cancer chemotherapy. This will be followed by the presentation of data from preclinical models that appear to account well for the patient findings. These data implicate the activation of innate immunity by chemotherapy drugs as key in the initiation of CIPN.