

Voltage-Gated Calcium Channels #9780306478406 #Gerald W. Zamponi #377 pages #Springer Science & Business Media, 2005 #2005

This bar-code number lets you verify that you're getting exactly the right version or edition of a book. The 13-digit and 10-digit formats both work. Scan an ISBN with your phone Use the Amazon App to scan ISBNs and compare prices. Voltage-gated calcium channels are a family of integral membrane calcium-selective proteins found in all excitable and many nonexcitable cells. Calcium influx affects membrane electrical properties by depolarizing cells and generally increasing excitability. Calcium entry further regulates multiple intracellular signaling pathways as well as the biochemical factors that mediate physiological functions such as neurotransmitter release and muscle contraction. Small changes in the biophysical properties or expression of calcium channels can result in pathophysiological changes leading to serious Voltage-gated calcium channels play a major role both in the normal functioning and also in various pathological processes that occur in neuronal, neurosecretory and muscle cells. Indeed, their presence has been said to define an excitable cell (Hille, 2001). They were first identified by Paul Fatt and Bernard Katz in crustacean muscle, when they left the Na $\frac{1}{4}$ out of their bathing medium and found that the muscle still generated action potentials (Fatt & Katz, 1953) (Figure 1a).