

Contraction and Membrane Potential of C2C12 with GTXs

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Abstract : Culture techniques of skeletal muscle cells are advanced in the field of regenerative medicine and applied research of cultured muscle. As applied research of cultured muscle, myopathy (muscles disease) treatment is expected and development bio of actuator is also expected in biomedical engineering. Grayanotoxins (GTXs) is known as neurotoxins that enhance the permeability of cell membrane for Na ions. Grayanotoxins are extracted from a famous *Pieris japonica* and *Ericaceae* as well as a phytotoxin. In this study, we investigated the effect of GTXs on muscle cells (C2C12) contraction and membrane potential. Contraction of myotubes is induced by applied external electrical stimulation. Contraction and membrane potential change of skeletal muscle cells are induced by injection of current. We, therefore, concluded that effect of Grayanotoxins on contraction and membrane potential of C2C12 relate to acute toxicity of GTXs.

Keywords : skeletal muscle cells C2C12, grayanotoxins, contraction, membrane potential, acute toxicity, pytotoxin, motubes

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