

Frog muscle labs



**ASSIGN
BUSTER**

A motor unit is a motor neuron and the muscle fiber it controls. A whole muscle is made up of hundreds of motor units that are handled by different motor neurons that react at different levels of stimulation. The electric shock acts as an action potential by changing the membrane permeability allowing the sodium and potassium ions to pass through. At different levels of stimulation the motor neurons stimulate a motor unit and the more stimulation the more motor units become active.

The lowest reaction with shock was .3 volts created by a contraction of a low number of the fibers in the muscle. When you increased the shock to 1 volt you increased the tension made by the muscle because of an increase in the amount of contracting muscle fibers. At around 1 volt the muscle tension remained about the same because all possible motor units had been activated in the muscle. A single twitch-type contraction of every fiber in the muscle was created by high-voltage shocks made by contractions that showed near-constant maximum tension.

Length-Tension Lab At maximum tension (28mm) the sarcomeres are at the optimum level to produce the maximum cross-bridge coupling. As the muscle contracts the cross-bridges form and then break down as the thin filaments slide past each other and the sarcomere shortens. No other length allows the same amount of travel and coupling. At 30mm, the sarcomere is too taut to allow cross-bridges to form and contract.

At 26mm, the sarcomeres are already shortened and further contraction is very limited. Summation & Tetanus Lab Summation means the muscle contracted but it didn't go back to resting before it contracted again.

Summation was first observed at 200 milliseconds. Incomplete tetanus is where the muscle contracts so that the single contractions produced more tension than seen during single twitches. Incomplete tetanus was first seen at 170 milliseconds.

Complete tetanus made an extended contraction and the single contractions couldn't be observed. Complete tetanus was first seen at 70 milliseconds. Frog Muscle Labs By kmwalls A motor unit is a motor neuron and the muscle fiber it controls. A whole muscle is that reacts at different levels of stimulation. The electric shock acts as an action. When the voltage was set at 0 or . there was no reaction because the shock wasn't able to trigger the threshold for action potential production.

The lowest reaction with muscle. When you increased the shock to 1 volt you increased the tension made by every fiber in the muscle was created by high-voltage shocks made by contractions the sarcomere is too taut to allow cross-bridges to form and contract. At 26mm, the contractions couldn't be observed. Complete tetanus was first seen at 70 milliseconds.