A human skeletal muscle cell line obtained from an adult donor

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A cell line (RCMH) in permanent culture was established from surgically removed adult normal human skeletal muscle by exposure to conditioned media obtained from thyroid cells. Cells proliferated indefinitely but displayed density inhibition of growth while maintaining some differentiated marker. Under certain incubation conditions, cells fused into myotube-like structures, with a concomitant increase in muscle specific proteins, such as human myoglobin, skeletal muscle myosin, desmin and dystrophin, as identified using immunocytochemical procedures. In addition, RCMH cells displayed high affinity receptors for ?-bungarotoxin (Bmax = 0.7 pmol/mg protein, Kd = 1.5 nM) and dihydropyridines (Bmax = 0.3 pmol/mg protein, Kd = 0.5 nM for [3H]PN200-110); these values are comparable to those reported for muscle cells in primary culture. Patch-clamp studies showed the presence of 42 pS carbachol gated channels and of 5 pS calcium channels (current carried by barium); chloride and potassium chan