

Materials List for:

Evaluation of Muscle Function of the Extensor Digitorum Longus Muscle *Ex vivo* and Tibialis Anterior Muscle *In situ* in Mice

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Materials

Name	Company	Catalog Number	Comments
Tissue-organ bath	Radnoti LLC, CA, USA		Water-jacket tissue bath (Cat #158351-LL), Oxygen disperser tube (Cat #160192), Luer valve (Cat#120722)
Circulating water bath	Fisher Scientific, Waltham, MA, USA		
Gas mix	Airgas National, Charlotte, NC, USA		95% O ₂ and 5% CO ₂
<i>In vitro</i> muscle function assay apparatus	 Aurora Scientific, Aurora, ON, Canada		The system consists of a stimulator (Model# 701A), a dual-mode lever system (Model#300C or 305C), a signal interface (Model # 604B) and a test apparatus (Model# 800A) to vertically mount tissue organ bath
<i>In vitro</i> muscle function assay software	 Aurora Scientific, Aurora, ON, Canada		Dynamic muscle control (DMC) software and dynamic muscle control data analysis (DMA) software
Mouse anesthesia cocktail mixed in 0.9% NaCl	Refer to the institutional guidelines		Ketamine (25 mg/ml), xylazine (2.5 mg/ml) and acepromazine (0.5 mg/ml). Throughout the surgical procedure, a supplement of 10 % of the initial dose may be needed to keep animal under anesthesia.
Sylgard	World Precision Instrument	Cat#SYLG184	
A custom-made Plexiglas dissection board	In house designed		Refer to Figure 1
Heating lamp	Tensor Lighting Company, Boston, MA, USA		15 Watt lamp to keep the mouse warm during dissection
Ringer's Buffer	Chemicals are purchased from Fisher Scientific, Waltham, MA, USA		Composition in mM: 1.2 NaH ₂ PO ₄ (Cat#S369) , 1 MgSO ₄ (Cat# M63), 4.83 KCl (Cat# P217), 137 NaCl (Cat# 217), 24 NaHCO ₃ (Cat# S233), 2 CaCl ₂ (Cat #C79) and 10 glucose (Cat# D16). Dissolve chemicals individually and mix in the order listed above. Store at 4 °C.
Stereo dissecting microscope	Nikon, Melville, NY, USA		
Dissection tools	Fine Science Tools, Foster City, CA, USA		Coarse forceps, coarse scissors, fine forceps (Straight and 45 ° angle)
Braided silk suture #4-0	SofSilk USSC Sutures, Norwalk, CT, USA	Cat # SP116	

A custom-made stainless steel hook	Small Parts, Inc.		2" long S/S 304V (0.18" diameter) for force transducer 305C or 2.5" long S/S 304V (0.012" diameter) for transducer 300C (Cat# ASTM A313)
<i>In situ</i> muscle function assay system	 Aurora Scientific, Aurora, ON, Canada		The system (809B, <i>in situ</i> mouse apparatus) consist of a stimulator (Model# 701B), a dual-mode lever system (Model# 305C), a signal interface (Model# 604A) and a thermo controlled footplate apparatus (Model# 809A)
<i>In vitro</i> muscle function assay software	 Aurora Scientific, Aurora, ON, Canada		Dynamic muscle control (DMC) software and dynamic muscle control data analysis (DMA) software
A custom-made TA assay animal platform	In house designed		Refer to Figure 2
A custom-made stainless steel hook	Small Parts, Inc.	Cat# ASTM A313	0.5" long S/S 304V (0.18" diameter)
Custom-made 25G platinum electrodes	Chalgren Enterprises, Gilroy,CA		Solder two 0.016" thick platinum wires to two 24G electric wires
Table 1. Materials and equipment.			