

Comprehensive Understanding of Inactivity-Induced Gait Alteration in Rodents

 Junichi Tajino^{1,2}, Tomoki Aoyama¹, Hiroshi Kuroki¹, Akira Ito¹
¹Department of Motor Function Analysis, Human Health Sciences, Graduate School of Medicine, Kyoto University ²Otolaryngology - Head & Neck Surgery, Ohio State Wexner Medical Center

Corresponding Author

 Akira Ito
 ito.akira.4m@kyoto-u.ac.jp

Citation

 Tajino, J., Aoyama, T., Kuroki, H., Ito, A. Comprehensive Understanding of Inactivity-Induced Gait Alteration in Rodents. *J. Vis. Exp.* (185), e63865, doi:10.3791/63865 (2022).

Date Published

July 6, 2022

DOI

10.3791/63865

URL

jove.com/video/63865

Materials

Name	Company	Catalog Number	Comments
Adhesive Tape	NICHIBAN CO.,LTD.	SEHA25F	Adhesive tape to secure thread on tails of rats for hindlimb unloading
Anesthetic Apparatus for Small Animals	SHINANO MFG CO.,LTD.	SN-487-0T	
Auto clicker	N.A.	N.A.	free software available to download to PC (https://www.google.com/search?client=firefox-b-1-d&q=auto+clicker)
CCD Camera	Teledyne FLIR LLC	GRAS-03K2C-C	CCD (Charge-Coupled Device) cameras for video capture
Cotton Thread	N.A.	N.A.	Thread to hang tails of rats from the ceiling of cage
ISOFLURANE Inhalation Solution	Pfizer Japan Inc.	(01)14987114133400	
Joint marker	TOKYO MARUI Co., Ltd	0.12g BB	6 mm airsoft pellets that were used as semispherical markers with modification
Kine Analyzer	KISSEI COMTEC CO.,LTD.	N.A.	Software for analysis
Konishi Aron Alpha	TOAGOSEI CO.,LTD.	#31204	Super glue to attach spherical markers on landmarks of rats
Motion Recorder	KISSEI COMTEC CO.,LTD.	N.A.	Software for video recording
Paint Marker	MITSUBISHI PENCIL CO., LTD	PX-21.13	Oil based paint marker to mark toes of animals
Three-dimensional motion capture apparatus (KinemaTracer for small animals)	KISSEI COMTEC CO.,LTD.	N.A.	3D motion analysis system that consists of four cameras (https://www.kicnet.co.jp/solutions/biosignal/animals/kinematracer-for-animal/ or https://micekc.com/en/)
Three-dimensional(3D) Calculator	KISSEI COMTEC CO.,LTD.	N.A.	Software fo marker tracking
Treadmill	MUROMACHI KIKAI CO.,LTD	MK-685	Treadmill equipped with transparent housing, electrical shocker, and speed control unit
Wistar Rats (male, 7-week old)	N.A.	N.A.	Commercially available at experimental animal sources