

Resource Summary Report

Generated by [dkNET](#) on Sep 16, 2026

Adipose depot innervation: whole mount staining, imaging, quantification

DOI:10.17504/protocols.io.brs2m6ge

Type: Protocol

Proper Citation

Jake Willows, Kristy Townsend, Magdalena Blaszkiewicz 2021. Adipose depot innervation: whole mount staining, imaging, quantification. protocols.io
dx.doi.org/10.17504/protocols.io.brs2m6ge

Protocol Information

URL: <https://dx.doi.org/10.17504/protocols.io.brs2m6ge>

Authors: Jake Willows, Kristy Townsend, Magdalena Blaszkiewicz

Group: Townsend Lab Neurobiology & Energy Balance

Summary: Abstract Little is known about the diversity and function of adipose tissue nerves due, in part, to the inability to effectively visualize the various nerve subtypes residing within these tissues. The tools currently available for researchers to image and quantify adipose tissue innervation are limited and dependent on optical clearing techniques and light sheet microscopy. Here we present a method of tissue processing that uses a method of mechanically compressing tissue to decrease tissue thickness in the z-axis by expanding it in the x and y-axes whilst leaving cells intact. This has been combined with autofluorescence quenching techniques to permit imaging of intact whole tissues on both widefield and confocal microscopes and a complementary means to perform whole tissue neurite density quantification. We have included examples of how this technique can be used to further our current knowledge of adipose-nerve communication by characterizing the nerves, nerve-subtypes, and neurovascular interactions within the inguinal subcutaneous white adipose tissue in mice.

Affiliations: Ohio State University, Columbus, Ohio State University, Ohio State University, Columbus

Version: 2

Publication Date: 2021

Proper Citation: Jake Willows, Kristy Townsend, Magdalena Blaszkiewicz 2021. Adipose depot innervation: whole mount staining, imaging, quantification. protocols.io

dx.doi.org/10.17504/protocols.io.brs2m6ge

Record Creation Time: 20210329T220517+0000

Record Last Update: 20210329T220834+0000

Data and Source Information

Source: