

Workflow idea 2a

Organelle detection in high resolution HeLa cell images

Workflow Idea 2a: Organelle detection in high resolution HeLa cell images

Goal: Detect individual organelles in the 3D image stack including

- (1) Nucleus
- (2) mitochondria
- (3) Lysosome
- (4) Lipid droplet
- (5) Endoplasmic reticulum and
- (6) Ribosomes

All regions are labeled on the following slide, for non-biologists.

Expected difficulty level: Medium to Hard

Expected challenge(s): Detection of smaller organelles.

Lysosome

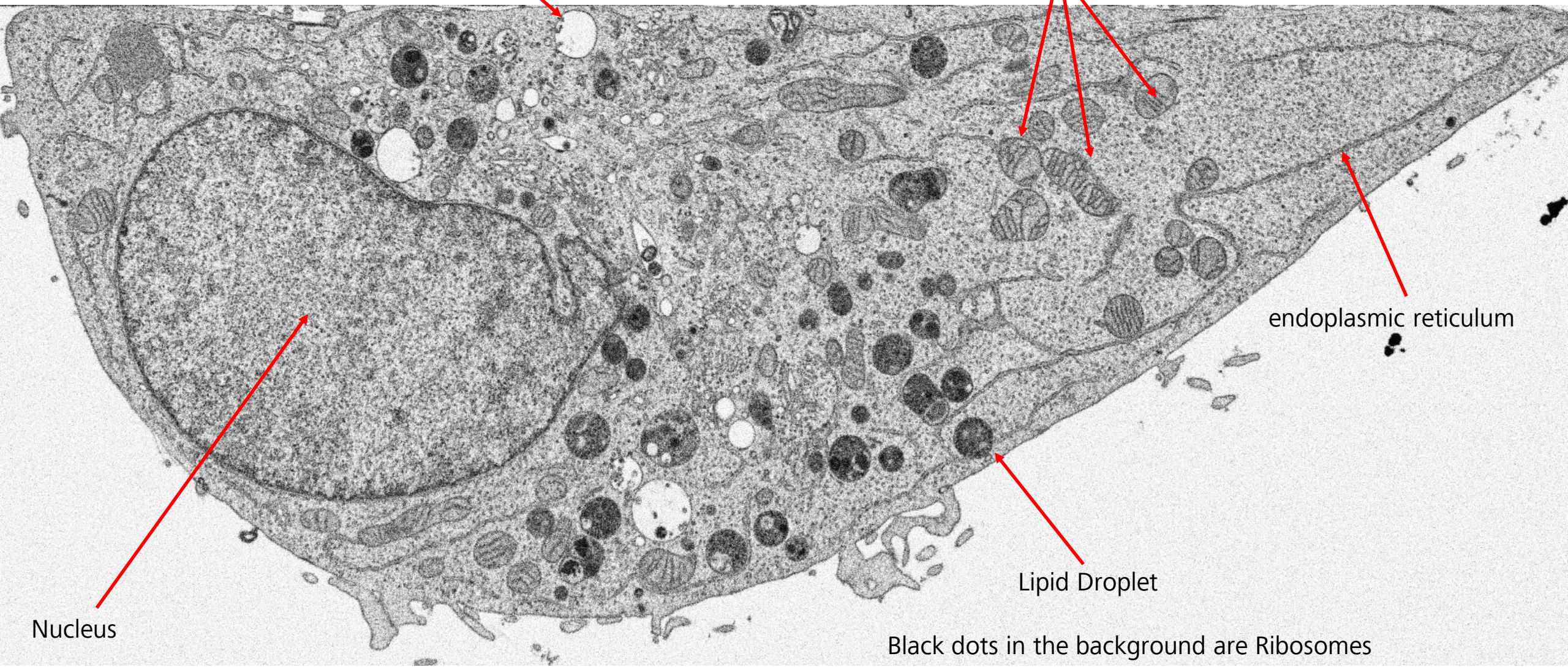
Mitochondria

endoplasmic reticulum

Lipid Droplet

Nucleus

Black dots in the background are Ribosomes



Images for Workflow Ideas 2a and 2b:
Organelle / mitochondria detection in high resolution HeLa cell images

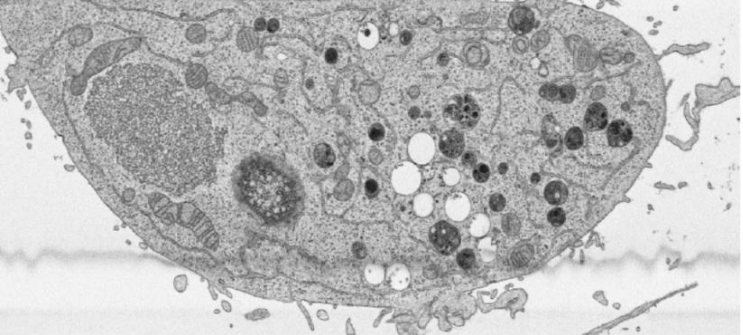


Image 0

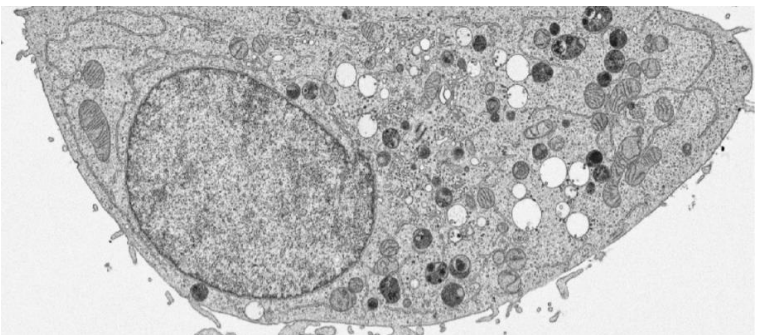


Image 300

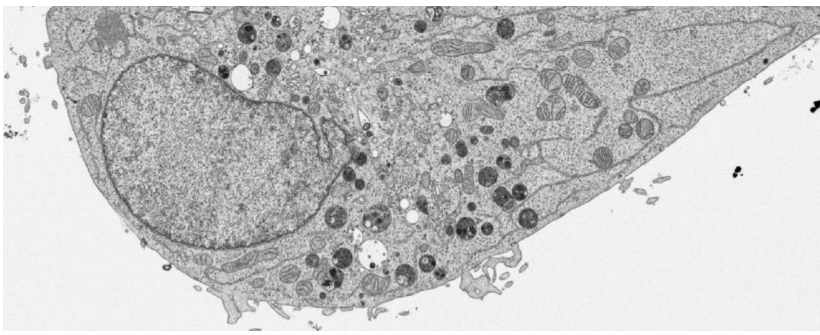


Image 600

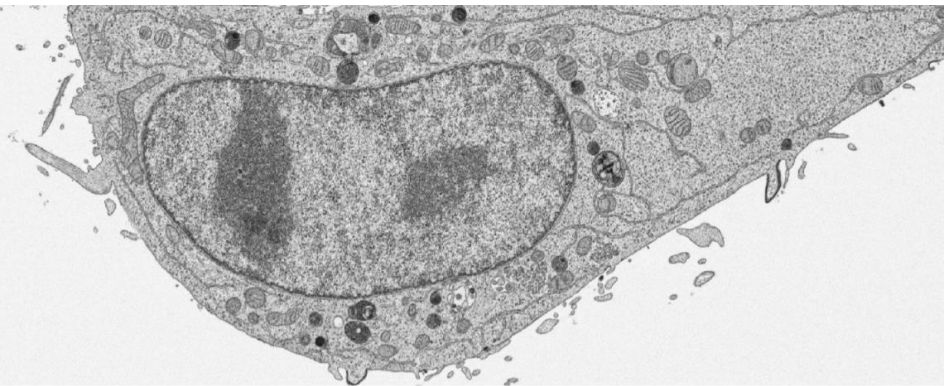


Image 900

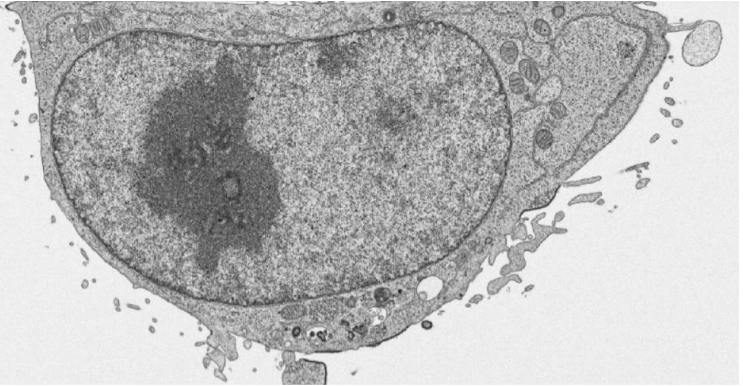


Image 1200

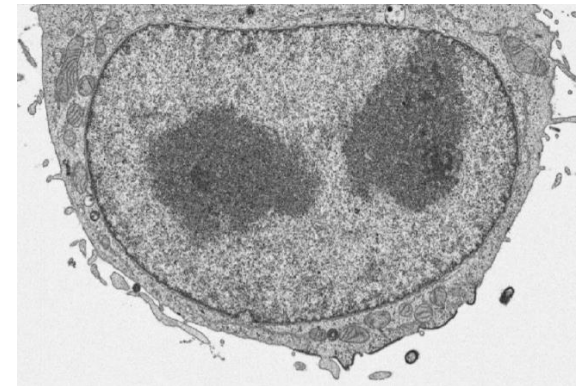


Image 1464

Workflow Idea 2a and 2b: Organelle / mitochondria detection in high resolution HeLa cell images

Dataset / image information:

File name: WF02_Hela.zip

Total 1465 tif images

Voxel size 5 nm x 5 nm x 8 nm

You may need to register/align individual slices and crop the dataset to remove blank white space from all images. Alternatively you can segment out the white space.