## **Description of Additional Supplementary Files**

File name: Supplementary Movie 1

**Description:** Representative healthy platelet tomogram. Slicewise view scrolling through the tomogram. Organelles are annotated.

File name: Supplementary Movie 2

**Description:** Representative AML platelet tomogram. Slicewise view scrolling through the tomogram. Organelles are annotated.

File name: Supplementary Movie 3

**Description:** Representative pre-AML platelet tomogram. Slicewise view scrolling through the tomogram. Organelles are annotated.

File name: Supplementary Data 1

**Description:** Average platelet and mitochondria areas in un-irradiated WT, Pre-AML, AML, and controls.

File name: Supplementary Data 2

Description: Circularity measurements of abnormal and normal mitochondria.

File name: Supplementary Data 3 Description: Source data for Fig. 3d.