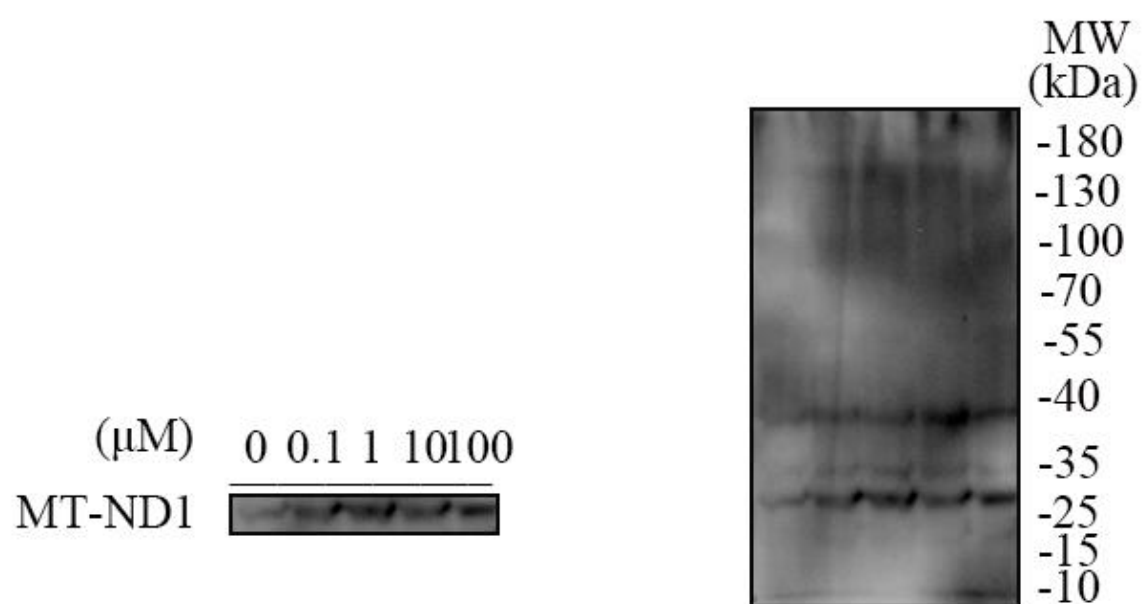
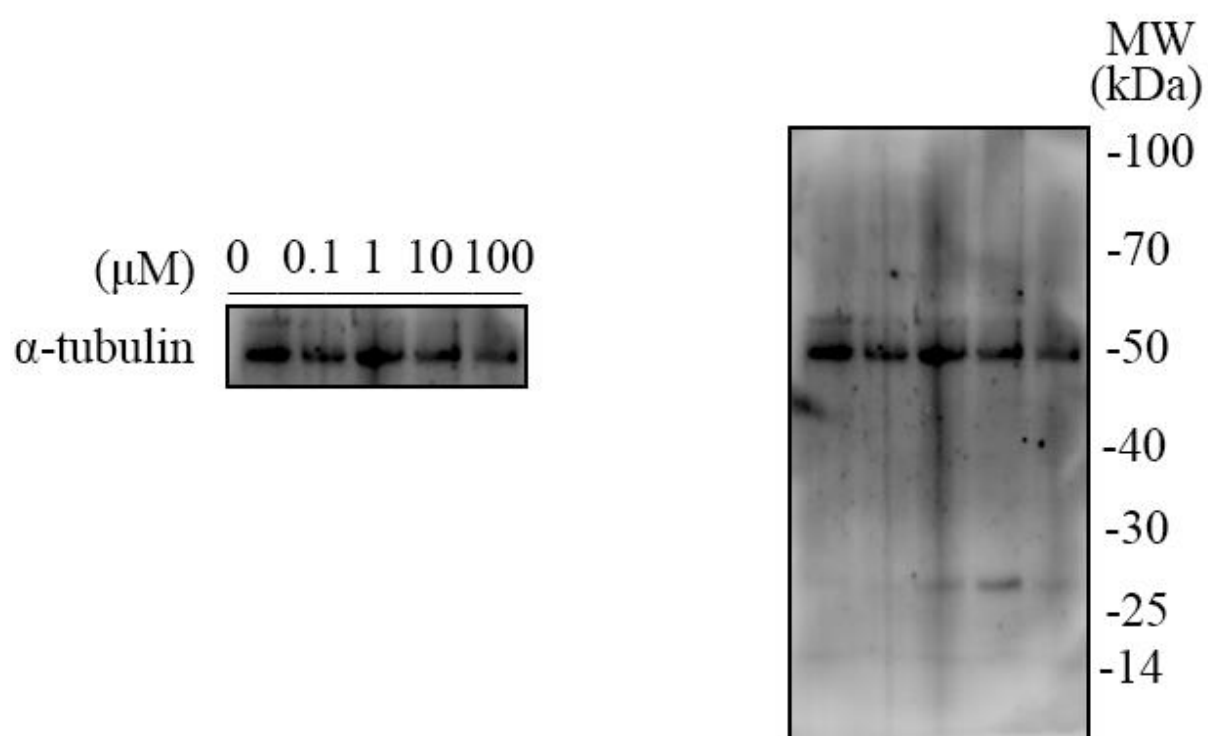
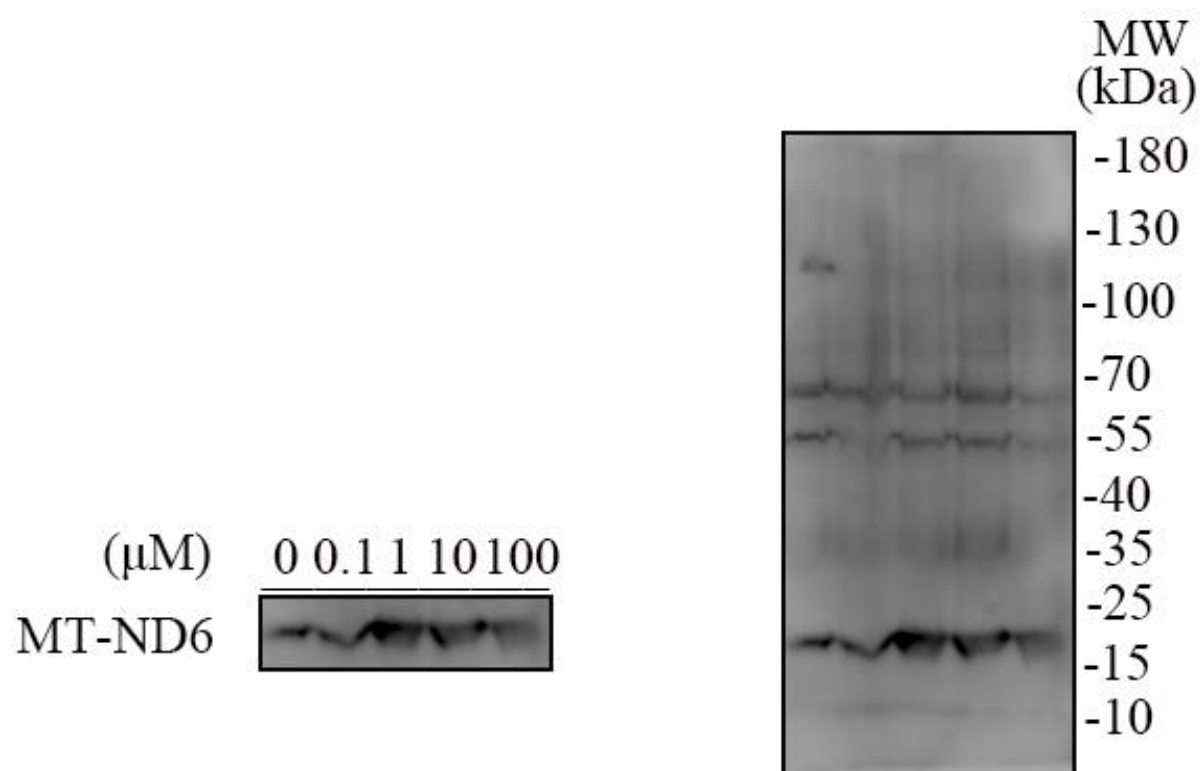


**Figure S1.** A: Sperm with bright green fluorescence are considered intact (white arrow), while sperm with red fluorescence indicate plasma membrane damage (red arrow). B: sperm showing bright green fluorescence is considered complete (white arrows), while sperm with no green or speckled green fluorescence indicates acrosome damage (red arrows).





**Figure S2.** Effect of different concentrations of mitochonic acid 5 on the expression of mitochondria proteins (MT-ND1 and MT-ND6) in ram sperm.