

# Yeast Mitochondria (*S. cerevisiae*)

<b>CATALOG #:</b>	1222-50, 200
<b>SIZE:</b>	50 and 200 µg
<b>ALTERNATE NAMES:</b>	Mitochondrion
<b>SOURCE:</b>	<i>Saccharomyces cerevisiae</i>
<b>INTEGRITY:</b>	> 95% tested by JC-1 dye
<b>FORMULATION:</b>	10 mg/ml solution in 250 mM sucrose containing 1 mM EDTA and 10 mM MOPS-KOH, pH 7.2.

**STORAGE CONDITIONS:**

For intact mitochondria, store at -70°C. For the gel loading, mitochondria can be stored for a short time at desired concentration in 1X SDS Page loading dye (not provided) at 4°C. Avoid repeated freezing and thawing cycles.

**DESCRIPTION:**

Mitochondria are the power house of the cells as they generate most of the supply of energy in the form of adenosine tri-phosphate (ATP). Mitochondria are double membrane organelles comprising of an outer membrane and a folded inner membrane called cristae. Isolated mitochondria are a useful tool to study mitochondrial respiration, assembly of the respiratory complexes, apoptosis, mtDNA, mtRNA, protein profiling, and as a loading control. Highly pure yeast mitochondria are purified using standard protocol as mentioned in the Yeast Mitochondria Isolation Kit - Cat # K259-100 from *Saccharomyces cerevisiae*.

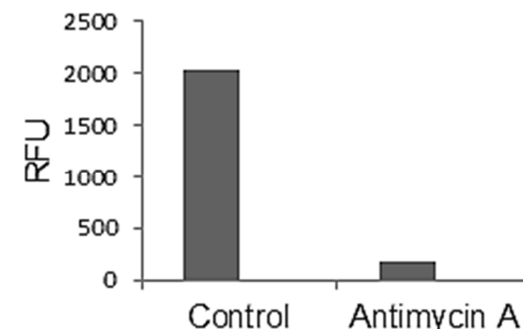
**APPLICATION:**

- Mitochondrial respiration studies, assembly of the complexes, apoptosis, mtDNA and mtRNA, and for protein profiling.
- Western blot and ELISA

**MITOCHONDRIAL INTEGRITY TEST:**

Purified mitochondria were analyzed for intactness by using JC-1 dye, which tests the electrochemical proton gradient ( $\Delta\Psi$ ) of the inner mitochondrial membrane. The intact purified mitochondria show aggregation of JC-1 dye whose signal can be measured at Ex/Em = 530/590 nm. Treatment with Antimycin A dissipates the mitochondrial membrane potential resulting in reduced fluorescence signal.

**FOR RESEARCH USE ONLY! Not to be used in humans.**



**Figure 1: Mitochondrial Membrane Potential:** Purified mitochondria from *Saccharomyces cerevisiae* was thawed on ice and incubated with JC-1 dye (1.5 µM) for 30 minutes at room temperature. Mitochondrial membrane potential was completely dissipated by Antimycin A (100 µM), which resulted in reduced fluorescence signal.

**RELATED PRODUCTS:**

- Yeast Mitochondria (*Pichia pastoris*) (Cat. No. 1111-200)
- Mitochondria/Cytosol fraction Kit (Cat. No. K256-25, -100)
- Mitochondrial DNA Isolation Kit (Cat. No. K280-100)
- VDAC/Porin Antibodies (Cat. No. 3594-100)
- JC-1 Mitochondrial Membrane Potential Dye (Cat. No. 1130-5)
- Cytochrome C (Cat. No. 2120-100)
- Cytochrome C Antibody (Cat. No. 3353-100)
- Cytochrome C Antibody (Cat. No. 3352-100)
- Cytochrome C Antibody (Cat. No. 3025-100)
- Cytochrome C Antibody (Clone 7H8.2C12) (Cat. No. 3026-100)
- Cytochrome c Apoptosis Assay Kit (Cat. No. K257-100)
- Cytochrome C Blocking peptide (Cat. No. 3353BP-50)
- Cytochrome C Blocking peptide (Cat. No. 3352BP-50)
- Cytochrome C Blocking peptide (Cat. No. 3025BP-50)
- Cytochrome P450 Antibody (Cat. No. 3084R-100)
- Cytochrome P450 Antibody (Cat. No. 3084RBP-50)
- Valinomycin (Cat. No. 2238-10, -50)
- Antimycin A (Cat. No. 2247-10, -50)
- Rotenone (Cat. No. 2248-250, -1000)