**PRODUCT INFORMATION**

**Coenzyme Q<sub>2</sub>**
*Item No. 17327*

CAS Registry No.: 606-06-4  
Formal Name: 2-[(2E)-3,7-dimethyl-2,6-octadien-1-yl]-5,6-dimethoxy-3-methyl-2,5-cyclohexadiene-1,4-dione  
Synonyms: CoQ<sub>2</sub>, Ubiquinone-2, Ubiquinone Q<sub>2</sub>  
MF: C<sub>19</sub>H<sub>26</sub>O<sub>4</sub>  
FW: 318.4  
Purity: ≥ 95%  
UV/Vis.: λ<sub>max</sub>: 274 nm  
Supplied as: A solution in ethanol  
Storage: -20°C  
Stability: ≥ 2 years

*Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.*

**Laboratory Procedures**

Coenzyme Q<sub>2</sub> is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol and dimethyl formamide (DMF) purged with an inert gas can be used. The solubility of coenzyme Q<sub>2</sub> in these solvents is approximately 10 mg/ml.

Coenzyme Q<sub>2</sub> is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

**Description**

Coenzyme Q<sub>2</sub> (CoQ<sub>2</sub>) is a biosynthetic precursor to the electron transport chain cofactor CoQ<sub>10</sub> (Item No. 11506) and an inhibitor of mitochondrial complex I, also known as NADH dehydrogenase. It is an electron acceptor that accepts electrons from mitochondrial complex I. CoQ2 inhibits the proliferation of BALL-1 human B cell acute lymphoblastic leukemia cells (IC<sub>50</sub> = 20 µM) and induces apoptosis in Huh7 and HepG2 hepatoma cells when used at a concentration of 100 µM. It increases the production of reactive oxygen species (ROS) in BALL-1 cells but inhibits ROS production in mitochondrial membranes derived from bovine heart when used in combination with the mitochondrial complex I inhibitors rotenone (Item No. 13995), piericidin A (Item No. 15379), or rolliniastatin 1 or -2. CoQ<sub>2</sub> increases the production of hydrogen peroxide in isolated rabbit heart mitochondria and decreases it in isolated rabbit liver mitochondria.

**References**