MitoB

**Item No. 17116**

**CAS Registry No.:** 1247025-84-8  
**Formal Name:** [(3-boronophenyl)methyl]triphenylphosphonium, monobromide  
**Synonym:** MitoBoronic Acid  
**MF:** C_{25}H_{23}BO_{2}P \cdot \text{Br}  
**FW:** 477.1  
**Purity:** ≥95%  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥2 years

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

**Laboratory Procedures**

MitoB is supplied as a crystalline solid. A stock solution may be made by dissolving the MitoB in the solvent of choice. MitoB is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of MitoB in these solvents is approximately 0.5, 10, and 5 mg/ml, respectively.

MitoB is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, MitoB should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. MitoB has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

**Description**

MitoB is a ratiometric mass spectrometry probe that can be used for assessing changes in H_{2}O_{2} within mitochondria in vivo. MitoB contains a triphenylphosphonium cation component that drives its accumulation in mitochondria where its arylboronic moiety selectively reacts with H_{2}O_{2} to produce a phenol product, MitoP. Quantifying the MitoP/MitoB ratio by LC-MS/MS reflects the mitochondrial matrix H_{2}O_{2} concentration.

**References**