**Product Data Sheet**

### Chemical Properties

- **Product Name:** BHQ
- **Cas No.:** 88-58-4
- **M.Wt:** 222.33
- **Formula:** C14H22O2

- **Chemical Name:** 2,5-di-tert-butylbenzene-1,4-diol
- **Canonical SMILES:** OC(C(C(C)(C)=C1)=CC(C(C)(C)C)=C1O
- **Solubility:** ≥8mg/mL in DMSO
- **Storage:** Store at RT

**General tips:** For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

**Shopping Condition:**
- Evaluation sample solution: ship with blue ice
- All other available size: ship with RT, or blue ice upon request

### Biological Activity

**Targets:** Membrane Transporter/Ion Channel

**Pathways:** ATPase

**Description:**

BHQ is a selective inhibitor of endoplasmic reticulum Ca2+-ATPase. Endoplasmic reticulum Ca2+-ATPase (SR Ca2+-ATPase) is a Ca2+-ATPase and transfers Ca2+ from the cytosol of the cell to the lumen of the sarcoplasmic reticulum (SR) during muscle relaxation. BHQ is a selective SR Ca2+-ATPase inhibitor. In rat basophilic leukaemia cells, BHQ (10 μM) blocked inward rectifier potassium current and might cause depolarization of the cell and affect Ca2+ influx [1]. In aortic rings at rest or depolarised with 80 mM K+ in the presence of 1 mM nifedipine, BHQ induced a slow tonic contraction. At 20 mM K+, BHQ increased Ca2+-induced...
contraction. However, BHQ inhibited Ca2+-induced contraction at 40, 80 and 128 mM K+ [2]. In smooth muscle cells from the rat tail artery, BHQ reduced L-type Ca2+ current (ICa(L)) with IC50 value of 66.7 μM in a concentration- and voltage-dependent way. BHQ increased superoxide anion formation, which was markedly inhibited by superoxide dismutase (SOD). These results suggested that BHQ inhibited ICa(L) by the generation of superoxide anion [3]. In Madin Darby canine kidney (MDCK) cells, BHQ increased [Ca2+]i with EC50 value of 40 μM in a dose-dependent way, which was contributed by depleting the endoplasmic reticulum Ca2+ store followed by capacitative Ca2+ entry [4].

Reference:

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.