# Product Description

Resveratrol is a potent phenolic antioxidant found in grapes and red wine that also has antiproliferative and anti-inflammatory activity (Rotondo et al.). Resveratrol is also a selective inhibitor of cyclooxygenase-1 (COX-1; Jang et al.). It inhibits COX and peroxidase activities of COX-1 with ED$_{50}$ values of 15 and 3.7 µM, respectively, with essentially no inhibition of the COX activity of COX-2.

## Properties

<table>
<thead>
<tr>
<th>Physical Appearance:</th>
<th>A crystalline solid</th>
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<tbody>
<tr>
<td><strong>Storage:</strong></td>
<td>Product stable at -20°C as supplied. Protect from prolonged exposure to light. Stable as supplied for 12 months from date of receipt.</td>
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</table>
| **Solubility:**      | - DMSO ≤ 280 mM  
- Absolute ethanol ≤ 280 mM  
- PBS (pH 7.2) ≤ 430 µM |
|                      | For example, to prepare a 10 mM stock solution in DMSO, resuspend 100 mg in 43.8 mL of fresh DMSO. |
|                      | NOTE: The solubility and stability of this molecule have been shown to be influenced by pH; this molecule has been reported to be unstable above pH 6.8 (Zupančič et al.). |
|                      | Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application. |
|                      | For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity. |
Published Applications

MAINTENANCE AND SELF-RENEWAL
· Inhibits differentiation of pig preadipocytes into adipocytes (Bai et al.).
· Promotes self-renewal of human mesenchymal stem cells (Peltz et al.).

DIFFERENTIATION
· Induces osteogenic differentiation in human bone marrow-derived mesenchymal stem cell cultures (Boissy et al.; Dai et al.; Peltz et al.).
· Induces osteoblast differentiation while blocking adipocyte development in mouse mesenchymal stem cells and cultured primary rat bone marrow cells (Bäckesjö et al.).

References


Related Small Molecules

For a complete list of small molecules available from STEMCELL Technologies, visit www.stemcell.com/smallmolecules or contact us at techsupport@stemcell.com.

This product is hazardous. Please refer to the Safety Data Sheet (SDS).