

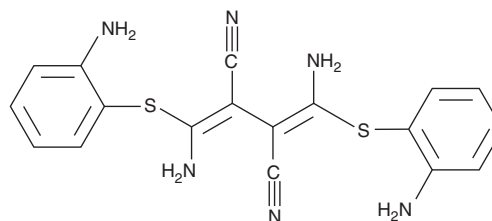
# PRODUCT INFORMATION



**U-0126**

Item No. 70970

**CAS Registry No.:** 109511-58-2  
**Formal Name:** 2,3-bis[amino[(2-aminophenyl)thio]methylene]-butanedinitrile  
**MF:** C<sub>18</sub>H<sub>16</sub>N<sub>6</sub>S<sub>2</sub>  
**FW:** 380.5  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 247, 308 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



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

## Laboratory Procedures

U-0126 is supplied as a crystalline solid. A stock solution may be made by dissolving the U-0126 in the solvent of choice, which should be purged with an inert gas. U-0126 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of U-0126 in these solvents is approximately 0.5, 25, and 30 mg/ml, respectively.

U-0126 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, U-0126 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. U-0126 has a solubility of approximately 0.3 mg/ml in a 1:2 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

## Description

U-0126 is a MEK inhibitor with IC<sub>50</sub> values of 72 nM and 58 nM for MEK1 and MEK2, respectively.<sup>1</sup> It is noncompetitive with respect to adenosine triphosphate (ATP) and its phosphorylation target ERK and it shows little to no inhibition against a number of other kinases including PKC, Ab1, Raf, MEKK, ERK, JNK, MKK-3, MKK-4, MKK-6, Cdk2, and Cdk4. However, U-0126 does phosphorylate and activate AMP-activated protein kinase (AMPK) in a dose-dependent manner (EC<sub>50</sub> = 15 μM in HEK293 cells).<sup>2</sup> It increases the ratios of ADP to ATP and AMP to ATP and increases phosphorylation of the AMPK target acetyl-CoA carboxylase (ACC).

## References

1. Favata, M.F., Horiuchi, K.Y., Manos, E.J., *et al.* Identification of a novel inhibitor of mitogen-activated protein kinase kinase. *J. Biol. Chem.* **273**(29), 18623-18632 (1998).
2. Dokladda, K., Green, K.A., Pan, D.A., *et al.* PD98059 and U0126 activate AMP-activated protein kinase by increasing the cellular AMP:ATP ratio and not *via* inhibition of the MAP kinase pathway. *FEBS Lett.* **579**(1), 236-240 (2005).

### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

### WARRANTY AND LIMITATION OF REMEDY

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