

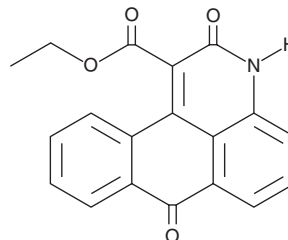
# PRODUCT INFORMATION



## NQDI-1

Item No. 16226

**CAS Registry No.:** 175026-96-7  
**Formal Name:** 2,7-dihydro-2,7-dioxo-3H-naphtho[1,2,3-de]quinoline-1-carboxylic acid, ethyl ester  
**MF:** C<sub>19</sub>H<sub>13</sub>NO<sub>4</sub>  
**FW:** 319.3  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 217, 313, 334, 346, 402 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

NQDI-1 is supplied as a crystalline solid. A stock solution may be made by dissolving the NQDI-1 in the solvent of choice, which should be purged with an inert gas. NQDI-1 is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of NQDI-1 in these solvents is approximately 1 mg/ml.

NQDI-1 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, NQDI-1 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. NQDI-1 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

Apoptosis signal-regulating kinase 1 (ASK1) is the ubiquitously expressed mitogen-activated protein kinase kinase kinase 5 involved in a wide range of biological functions that are dependent on cell survival or death.<sup>1,2</sup> NQDI-1 is a specific inhibitor of ASK1 (IC<sub>50</sub> = 3 μM; K<sub>i</sub> = 500 nM) that demonstrates potent selectivity against various serine/threonine and tyrosine protein kinases.<sup>2</sup> It has been used to promote survival of induced pluripotent stem cell populations and to protect neurons from reactive oxygen species-induced apoptosis in a model of ischemia.<sup>3,4</sup>

### References

1. Charette, S.J., Lambert, H., and Landry, J. A kinase-independent function of Ask1 in caspase-independent cell death. *J. Biol. Chem.* **276**(39), 36071-36074 (2001).
2. Volynets, G.P., Chekanov, M.O., Synyugin, A.R., et al. Identification of 3H-naphtho[1,2,3-de]quinoline-2,7-diones as inhibitors of apoptosis signal-regulating kinase 1 (ASK1). *J. Med. Chem.* **54**(8), 2680-2686 (2011).
3. Yoshida, T., Ozawa, Y., Suzuki, K., et al. The use of induced pluripotent stem cells to reveal pathogenic gene mutations and explore treatments for retinitis pigmentosa. *Mol. Brain* **7**, 45 (2014).
4. Nomura, K., Lee, M., Banks, C., et al. An ASK1-p38 signalling pathway mediates hydrogen peroxide-induced toxicity in NG108-15 neuronal cells. *Neurosci. Lett.* **549**, 163-167 (2013).

#### 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.

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