

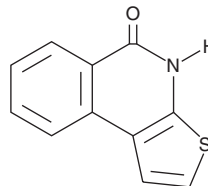
# PRODUCT INFORMATION



## TIQ-A

Item No. 16112

**CAS Registry No.:** 420849-22-5  
**Formal Name:** thieno[2,3-c]isoquinolin-5(4H)-one  
**MF:** C<sub>11</sub>H<sub>7</sub>NOS  
**FW:** 201.2  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 230, 341, 355 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

TIQ-A is supplied as a crystalline solid. A stock solution may be made by dissolving the TIQ-A in the solvent of choice, which should be purged with an inert gas. TIQ-A is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of TIQ-A in these solvents is approximately 0.5, 10, and 15 mg/ml, respectively.

TIQ-A is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, TIQ-A should first be dissolved in DMF and then diluted with the aqueous buffer of choice. TIQ-A has a solubility of approximately 0.1 mg/ml in a 1:8 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Poly(ADP-ribose) polymerase 1 (PARP1) is a critical DNA repair enzyme involved in DNA single-strand break repair via the base excision repair pathway. PARP1 is triggered by DNA damage and its excessive activation has been proposed as a causative factor in many pathological conditions including ischemia and reperfusion injury, asthma-related inflammation, and atherogenesis.<sup>1-3</sup> TIQ-A is a PARP1 inhibitor (IC<sub>50</sub> = 450 nM in cultured mouse cortical neurons).<sup>1</sup> It displays neuroprotective effects in cultured mouse cortical neurons injured by oxygen-glucose deprivation (IC<sub>50</sub> = 0.15 μM). TIQ-A has been used to inhibit eosinophilic infiltration into airways of OVA-challenged mice and to induce the regression of atherosclerotic plaques in high-fat fed apolipoprotein E(-/-) mice.<sup>2,3</sup>

### References

1. Chiarguri, A., Meli, E., Calvani, M., *et al.* Novel isoquinolinone-derived inhibitors of poly(ADP-ribose) polymerase-1: Pharmacological characterization and neuroprotective effects in an in vitro model of cerebral ischemia. *J. Pharmacol. Exp. Ther.* **305(5)**, 943-949 (2014).
2. Oumouna, M., Datta, R., Oumouna-Benachour, K., *et al.* Poly(ADP-ribose) polymerase-1 inhibition prevents eosinophil recruitment by modulating Th2 cytokines in a murine model of allergic airway inflammation: A potential specific effect on IL-5. *J. Immunol.* **177(9)**, 6489-6496 (2006).
3. Hans, C.P., Zerfaoui, M., Naura, A.S., *et al.* Thieno[2,3-c]isoquinolin-5-one, a potent poly(ADP-ribose) polymerase inhibitor, promotes atherosclerotic plaque regression in high-fat diet-fed apolipoprotein E-deficient mice: Effects on inflammatory markers and lipid content. *J. Pharmacol. Exp. Ther.* **329(1)**, 150-158 (2009).

#### 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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