

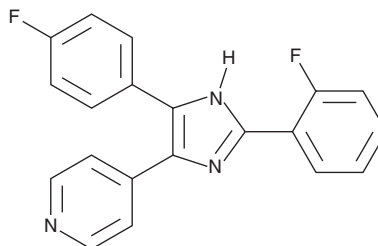
# PRODUCT INFORMATION



**TA-02**

Item No. 24668

**CAS Registry No.:** 1784751-19-4  
**Formal Name:** 4-[2-(2-fluorophenyl)-4-(4-fluorophenyl)-1H-imidazol-5-yl]-pyridine  
**MF:** C<sub>20</sub>H<sub>13</sub>F<sub>2</sub>N<sub>3</sub>  
**FW:** 333.3  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 203, 298 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

TA-02 is supplied as a crystalline solid. A stock solution may be made by dissolving the TA-02 in the solvent of choice, which should be purged with an inert gas. TA-02 is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of TA-02 in these solvents is approximately 3 and 5 mg/ml, respectively.

TA-02 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, TA-02 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. TA-02 has a solubility of approximately 0.14 mg/ml in a 1:6 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

## Description

TA-02 is a derivative of the p38 MAPK inhibitor SB 203580 (Item Nos. 13067 | 13344) and an inducer of cardiomyocyte differentiation.<sup>1</sup> It is cardiomyogenic, increasing expression of the cardiomyocyte marker NKX2-5 by greater than 2-fold and decreasing expression of mesoderm markers and the pre-cardiac marker Isl-1 in HES-3 NKX2-5<sup>eGFP/w</sup> cells when applied after embryoid body formation at a concentration of 5 μM. TA-02 inhibits casein kinase 1ε (CK1ε) and CK1D and reduces expression of Wnt/β-catenin signaling pathway members, activities that positively correlate with its cardiomyogenic activity.

## Reference

1. Laco, F., Low, J.-L., Seow, J., *et al.* Cardiomyocyte differentiation of pluripotent stem cells with SB203580 analogues correlates with Wnt pathway CK1 inhibition independent of p38 MAPK signaling. *J. Mol. Cell. Cardiol.* **80**, 56-70 (2015).

### 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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