

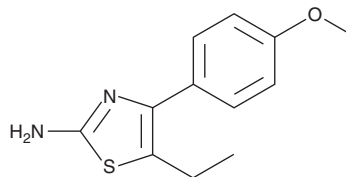
# PRODUCT INFORMATION



## CBF $\beta$ Inhibitor

Item No. 16771

**CAS Registry No.:** 493028-20-9  
**Formal Name:** 5-ethyl-4-(4-methoxyphenyl)-2-thiazolamine  
**Synonym:** Core Binding Factor- $\beta$  Inhibitor  
**MF:** C<sub>12</sub>H<sub>14</sub>N<sub>2</sub>OS  
**FW:** 234.3  
**Purity:**  $\geq$ 98%  
**UV/Vis.:**  $\lambda_{\text{max}}$ : 239 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:**  $\geq$ 4 years



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

### Laboratory Procedures

CBF $\beta$  inhibitor is supplied as a crystalline solid. A stock solution may be made by dissolving the CBF $\beta$  inhibitor in the solvent of choice, which should be purged with an inert gas. CBF $\beta$  inhibitor is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of CBF $\beta$  inhibitor in these solvents is approximately 25, 30, and 50 mg/ml, respectively.

CBF $\beta$  inhibitor is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, CBF $\beta$  inhibitor should first be dissolved in DMF and then diluted with the aqueous buffer of choice. CBF $\beta$  inhibitor has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Core binding factors (CBFs) are heterodimeric transcription factors consisting of a DNA-binding CBF $\alpha$  component (a RUNX protein) and an enhancer of binding, CBF $\beta$ .<sup>1</sup> CBF dimers have central roles in hematopoiesis and, when dysfunctional, in leukemias.<sup>1,2</sup> CBF $\beta$  inhibitor is a small molecule that binds to CBF $\beta$  and inhibits its association with Runx1 (IC<sub>50</sub> = 3.2  $\mu$ M).<sup>3</sup> It blocks CBF $\beta$ -Runx1 interactions in ME-1 cells, acute myeloid leukemia cells harboring dysfunctional CBF, reducing proliferation without toxicity.<sup>3</sup>

### References

1. Link, K.A., Chou, F.S., and Mulloy, J.C. Core binding factor at the crossroads: Determining the fate of the HSC. *J. Cell. Physiol.* **222**(1), 50-56 (2010).
2. Swiers, G., de Bruijn, N., and Speck, N.A. Hematopoietic stem cell emergence in the conceptus and the role of Runx1. *Int. J. Dev. Biol.* **54**(6-7), 1151-1163 (2010).
3. Gorczynski, M.J., Grembecka, J., Zhou, Y., et al. Allosteric inhibition of the protein-protein interaction between the leukemia-associated proteins Runx1 and CBF $\beta$ . *Chem. Biol.* **14**(10), 1186-1197 (2007).

#### 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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