

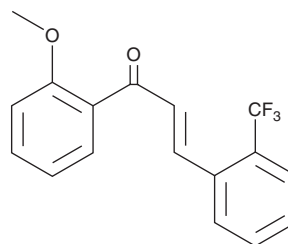
# PRODUCT INFORMATION



## 2-Trifluoromethyl-2'-methoxychalcone

Item No. 11881

**CAS Registry No.:** 1309371-03-6  
**Formal Name:** 1-(2-methoxyphenyl)-3-[2-(trifluoromethyl)phenyl]-2E-propen-1-one  
**MF:** C<sub>17</sub>H<sub>13</sub>F<sub>3</sub>O<sub>2</sub>  
**FW:** 306.3  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 219, 288 nm  
**Supplied as:** A solution in methyl acetate  
**Storage:** -20°C  
**Stability:** ≥2 years



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

### Laboratory Procedures

2-Trifluoromethyl-2'-methoxychalcone is supplied as a solution in methyl acetate. To change the solvent, simply evaporate the methyl acetate under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide purged with an inert gas can be used. The solubility of 2-trifluoromethyl-2'-methoxychalcone in these solvents is approximately 11, 5, and 14 mg/ml, respectively.

2-Trifluoromethyl-2'-methoxychalcone is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the methyl acetate solution of 2-trifluoromethyl-2'-methoxychalcone should be diluted with the aqueous buffer of choice. 2-Trifluoromethyl-2'-methoxychalcone has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Nrf2 activation is central to cytoprotective gene expression against oxidative and/or electrophilic stress.<sup>1</sup> Unless activated by inflammatory, environmental, or oxidative stressors, Nrf2 is sequestered in the cytoplasm by its repressor, Keap1.<sup>2</sup> Because of its protective capabilities, small molecules that activate Nrf2 signaling are being examined as potential anti-cancer or anti-inflammatory agents.<sup>3</sup> 2-Trifluoromethyl-2'-methoxychalcone is a potent activator of Nrf2, both *in vitro* and in mice.<sup>4</sup> Human bronchial epithelial cells treated with 10 μM 2-trifluoromethyl-2'-methoxychalcone showed a marked increase in the expression of the Nrf2-regulated antioxidant genes, GCLM and NQO1. Furthermore, treatment of mice with 50 mg/kg 2-trifluoromethyl-2'-methoxychalcone leads to a 4.5- and 4.6-fold increase in the expression of GCLM and NQO1, respectively, in the small intestine.<sup>4</sup>

### References

1. Wang, R., Kern, J.T., Goodfriend, T.L., *et al.* Activation of the antioxidant response element by specific oxidized metabolites of linoleic acid. *Prostaglandins Leukot. Essent. Fatty Acids* **81(1)**, 53-59 (2009).
2. Gao, L., Wang, J., Sekhar, K.R., *et al.* Novel n-3 fatty acid oxidation products activate Nrf2 by destabilizing the association between Keap1 and Cullin3. *J. Biol. Chem.* **282(4)**, 2529-2537 (2007).
3. Taguchi, K., Motohashi, H., and Yamamoto, M. Molecular mechanisms of the Keap1-Nrf2 pathway in stress response and cancer evolution. *Genes Cells* **16(2)**, 123-140 (2011).
4. Kumar, V., Kumar, S., Hassan, M., *et al.* Novel chalcone derivatives as potent Nrf2 activators in mice and human lung epithelial cells. *J. Med. Chem.* **54(12)**, 4147-4159 (2011).

#### 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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