

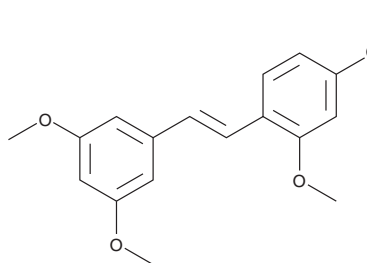
# PRODUCT INFORMATION



## TMS

Item No. 10038

**CAS Registry No.:** 24144-92-1  
**Formal Name:** 1-[(1E)-2-(3,5-dimethoxyphenyl)ethenyl]-2,4-dimethoxy-benzene  
**Synonym:** 2,3',4,5'-Tetramethoxystilbene  
**MF:** C<sub>18</sub>H<sub>20</sub>O<sub>4</sub>  
**FW:** 300.4  
**Purity:** ≥98%  
**Stability:** ≥2 years at -20°C  
**Supplied as:** A crystalline solid  
**UV/Vis.:** λ<sub>max</sub>: 302, 326 nm



### Laboratory Procedures

For long term storage, we suggest that TMS be stored as supplied at -20°C. It should be stable for at least two years.

TMS is supplied as a crystalline solid. A stock solution may be made by dissolving the TMS in an organic solvent purged with an inert gas. TMS is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of TMS in these solvents is approximately 400 µg/ml, 30 mg/ml, and 20 mg/ml, respectively.

TMS is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, TMS should first be dissolved in DMF and then diluted with the aqueous buffer of choice. TMS has a solubility of 500 µg/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

CYP1B1 is mainly an extrahepatic enzyme which oxidatively metabolizes both endogenous (steroids; eicosanoids) and exogenous xenobiotics such as polyaromatic hydrocarbons. TMS is a potent and selective inhibitor of CYP1B1, with an IC<sub>50</sub> of 6 nM.<sup>1</sup> It is 50-fold selective for the inhibition of CYP1B1 vs. CYP1A1, making it a useful tool to differentiate between various CYP450 families.<sup>1</sup> In cultured human colon cancer cells, TMS induces apoptosis and inhibits cell growth with an IC<sub>50</sub> of 0.8 µg/ml.<sup>2</sup>

### References

1. Kim, S., Ko, H., Park, J.E., *et al.* Design, synthesis, and discovery of novel *trans*-stilbene analogues as potent and selective human cytochrome P450 1B1 inhibitors. *J. Med. Chem.* **45**, 160-164 (2002).
2. Nam, K.A., Kim, S., Heo, Y.H., *et al.* Resveratrol analog, 3,5,2',4'-tetramethoxy-*trans*-stilbene, potentiates the inhibition of cell growth and induces apoptosis in human cancer cells. *Arch. Pharm. Res.* **24(5)**, 441-445 (2001).

#### 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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