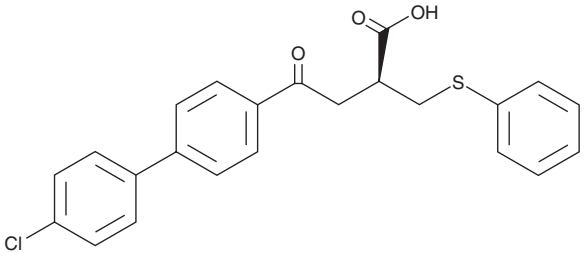
PRODUCT INFORMATION

Tanomastat

Item No. 19258

CAS Registry No.:	179545-77-8
Formal Name:	4'-chloro-γ-oxo-αS-[(phenylthio)methyl]-[1,1'-biphenyl]-4-butanoic acid
Synonym:	BAY 12-9566
MF:	$C_{23}H_{19}ClO_3S$
FW:	410.9
Purity:	≥98%
UV/Vis.:	λ_{max}: 285 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

Tanomastat is supplied as a crystalline solid. A stock solution may be made by dissolving the tanomastat in the solvent of choice, which should be purged with an inert gas. Tanomastat is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of tanomastat in ethanol is approximately 12 mg/ml and approximately 25 mg/ml in DMSO and DMF.

Tanomastat is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, tanomastat should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Tanomastat 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

Tanomastat is an inhibitor of matrix metalloproteinase-2 (MMP-2), MMP-3, and MMP-9 (K_is = 11, 143, and 301 nM, respectively).[1] It is selective for MMP-2, -3, and -9 over MMP-1 and MMP-13 (K_is = 5,000 and 1,470 nM, respectively). Tanomastat (15 µM) inhibits VEGF- and FGF-induced tubule formation in human umbilical vein endothelial cells (HUVECs).[2] It reduces tumor growth and the number of pulmonary metastases in an MDA-MB-435 orthotopic mouse model of breast cancer when administered at a dose of 100 mg/kg. Tanomastat (50 mg/kg) decreases disease severity in a rat model of adjuvant-induced arthritis.[3]

References

1. Leung, D., Abbenante, G., and Fairlie, D.P. Protease inhibitors: Current status and future prospects. *J. Med. Chem.* **43(3)**, 305-341 (2000).
2. Nozaki, S., Sissons, S., Chien, D.-S., *et al*. Activity of biphenyl matrix metalloproteinase inhibitor BAY 12-9566 in a human breast cancer orthotopic model. *Clin. Exp. Metastasis* **20(5)**, 407-412 (2003).
3. Hamada, T., Arima, N., Shindo, M., *et al*. Suppression of adjuvant arthritis of rats by a novel matrix metalloproteinase-inhibitor. *Br. J. Pharmacol.* **131(8)**, 1513-1520 (2000).

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