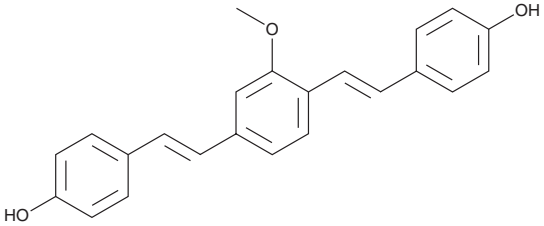
PRODUCT INFORMATION

Methoxy-X04

Item No. 20476

CAS Registry No.:	863918-78-9
Formal Name:	4,4'-[(2-methoxy-1,4-phenylene)di-(1E)-2,1-ethenediyl]*bis*-phenol
MF:	$C_{23}H_{20}O_3$
FW:	344.4
Purity:	≥95%
UV/Vis.:	λ_{max}: 371 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

Methoxy-X04 is supplied as a crystalline solid. A stock solution may be made by dissolving the methoxy-X04 in the solvent of choice. Methoxy-X04 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of methoxy-X04 in ethanol is approximately 5 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Methoxy-X04 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, methoxy-X04 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Methoxy-X04 has a solubility of approximately 0.33 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Methoxy-X04 is a brain-permeable fluorescent probe for amyloid-β (Aβ) to detect and quantify plaques, tangles, and cerebrovascular amyloid.[1] It displays high *in vitro* binding affinity (K_i = 26.8 nM) for fibrillar β-sheet deposits and is used to image Aβ plaques in the brains of living APP/PS1 mice, a transgenic model of familial Alzheimer's disease.[1,2] For *in vivo* imaging, APP/PS1 mice were injected with methoxy-X04 at a dose of 10 mg/kg, i.p., 24 hours prior to two-photon imaging.[2] Methoxy-X04 displays an excitation peak at 750 nm with emission between 460 and 500 nm.[2]

References

1. Klunk, W.E., Backsai, B.J., Mathis, C.A., *et al.* Imaging Aβ plaques in living transgenic mice with multiphoton microscopy and methoxy-X04, a systemically administered Congo red derivative. *J. Neuropathol. Exp. Neurol.* **61(9)**, 797-805 (2002).
2. Burgold, S., Bittner, T., Dorostkar, M.M., *et al.* In vivo multiphoton imaging reveals gradual growth of newborn amyloid plaques over weeks. *Acta. Neuropathol.* **121(3)**, 327-335 (2011).

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