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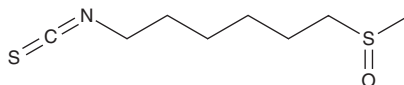
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PRODUCT INFORMATION

6-Methylsulfinylhexyl isothiocyanate

Item No. 19638

CAS Registry No.: 4430-35-7
Formal Name: 1-isothiocyanato-6-(methylsulfinyl)-hexane
Synonym: 6-MSITC
MF: C₈H₁₅NOS₂
FW: 205.3
Purity: ≥98%
Supplied as: A solution in ethanol
Storage: -20°C
Stability: ≥1 year



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

Laboratory Procedures

6-Methylsulfinylhexyl isothiocyanate (6-MSITC) is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of 6-MSITC in these solvents is approximately 30 and 50 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. If an organic solvent-free solution of 6-MSITC is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of 6-MSITC in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

6-MSITC is an isothiocyanate that has been found in wasabi (*W. japonica*) and has diverse biological activities.¹⁻⁵ It inhibits nitric oxide (NO) production in mouse peritoneal exudate macrophages when used at a concentration of 5 μM.¹ It inhibits aggregation of isolated human platelets induced by arachidonic acid (Item Nos. 90010 | 90010.1 | 10006607; IC₅₀ = 21.9 μM).² 6-MSITC reduces cell survival in a panel of breast, brain, colon, lung, ovarian, renal, and prostate cancer cell lines (mean IC₅₀ = 43.7 μM).³ *In vivo*, 6-MSITC (5 mg/kg twice weekly) reduces apoptosis of substantia nigral dopaminergic neurons and motor dysfunction in a mouse model of Parkinson's disease induced by 6-OHDA (Item No. 25330).⁴ 6-MSITC also reduces the number of lung metastases in a B16/F10 murine melanoma model.⁵

References

1. Noshita, T., Kidachi, Y., Funayama, H., et al. *Eur. J. Med. Chem.* **44**(12), 4931-4936 (2009).
2. Morimitsu, Y., Hayashi, K., Nakagawa, Y., et al. *Mech. Ageing Dev.* **116**(203), 125-134 (2000).
3. Nomura, T., Shinoda, S., Yamori, T., et al. *Cancer Detect. Prev.* **29**(2), 155-160 (2005).
4. Morroni, F., Sita, G., Tarozzi, A., et al. *Brain Res.* **1589**, 93-104 (2014).
5. Fuke, Y., Shinoda, S., Nagata, I., et al. *Cancer Detect. Prev.* **30**(2), 174-179 (2006).

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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