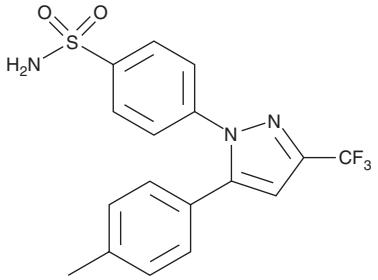
PRODUCT INFORMATION

Celecoxib

Item No. 10008672

CAS Registry No.:	169590-42-5
Formal Name:	4-[5-(4-methylphenyl)-3-(trifluoromethyl)-1H-pyrazol-1-yl]-benzenesulfonamide
Synonyms:	SC-58635, YM-177
MF:	$C_{17}H_{14}F_3N_3O_2S$
FW:	381.4
Purity:	≥98%
UV/Vis.:	λ_{max}: 204, 254 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

Celecoxib is supplied as a crystalline solid. A stock solution may be made by dissolving the celecoxib in the solvent of choice, which should be purged with an inert gas. Celecoxib is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of celecoxib in ethanol and DMF is approximately 25 mg/ml and approximately 16.6 mg/ml in DMSO.

Celecoxib is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, celecoxib should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Celecoxib has a solubility of approximately 0.2 mg/ml in a 1:4 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Celecoxib is a non-steroidal anti-inflammatory drug (NSAID) and COX-2 inhibitor (IC_{50} = 0.05 µM).[1] It is selective for COX-2 over COX-1 (IC_{50} = 22.9 µM).[1,2] Celecoxib induces apoptosis in BJAB and Jurkat cancer cells in a concentration-dependent manner.[3] It reduces blood glucose levels in a rat model of diabetes induced by streptozotocin (STZ; Item No. 13104).[4] Celecoxib reduces the latency to escape and the path length in the Morris water maze, as well as increases BDNF and tropomyosin-related kinase B (TrkB) protein levels in the hippocampus, in the same model. It inhibits the production of IL-1β and TNF-α and reduces synovial fluid expression of the gene encoding matrix metalloproteinase-3 (MMP-3) in a rabbit model of osteoarthritis when administered intra-articularly.[5] Celecoxib (100 mg/kg per day) increases serum levels of lactate dehydrogenase (LDH), troponin-T, TNF-α, and creatine kinase-MB (CK-MB), markers of cardiotoxicity, in rats.[6] Formulations containing celecoxib have been used in the treatment of osteoarthritis, and rheumatoid arthritis, and as an analgesic.

References

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3. Jendrossek, V., Handrick, R., and Belka, C. *FASEB J.* **17(11)**, 1547-1549 (2003).
4. Yang, Y. and Gao, L. *J. Mol. Neurosci.* **62(2)**, 188-198 (2017).
5. Jiang, D., Zou, J., Huang, L., *et al. Int. J. Mol. Sci.* **11(10)**, 4106-4113 (2010).
6. Ahmad, S., Panda, B.P., Fahim, M., *et al. Iran. J. Pharm. Res.* **17(1)**, 155-163 (2018).

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