

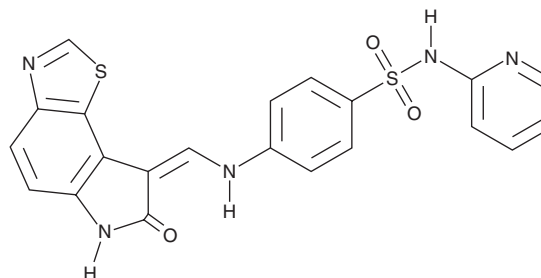
PRODUCT INFORMATION



GW 8510

Item No. 43576

CAS Registry No.: 222036-17-1
Formal Name: 4-[[[(6,7-dihydro-7-oxo-8H-pyrrolo[2,3-g]benzothiazol-8-ylidene)methyl]amino]-N-2-pyridinyl-benzenesulfonamide
MF: C₂₁H₁₅N₅O₃S₂
FW: 449.5
Purity: ≥98%
Supplied as: A 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

GW 8510 is supplied as a solid. A stock solution may be made by dissolving the GW 8510 in the solvent of choice, which should be purged with an inert gas. GW 8510 is sparingly soluble (1-10 mg/ml) in DMSO.

Description

GW 8510 is an inhibitor of cyclin-dependent kinase 2 (Cdk2) and Cdk5 (IC₅₀s = 3, 3, and 7 nM for Cdk2/cyclin E, Cdk2/cyclin A, and Cdk5/p25 complexes, respectively).¹ It is selective for Cdk2 and Cdk5 over Cdk1/cyclin B, Cdk4/cyclin D, Cdk7/cyclin H, and Cdk9/cyclin T (IC₅₀s = 49, 139, 317, and 543 nM, respectively). It also decreases ribonucleoside-diphosphate reductase subunit M2 (RRM2) levels and induces autophagy in HCT116 colon cancer cells when used at a concentration of 4 μM.² GW 8510 (1-500 nM) protects against MPP⁺-induced cytotoxicity in primary human neural progenitor cells derived from induced pluripotent stem cells (iPSCs) in an *in vitro* model of Parkinson's disease.³ *In vivo*, GW 8510 (2 mg/kg) increases grip strength and gastrocnemius and soleus muscle-to-body weight ratios in a mouse model of muscle atrophy induced by sciatic nerve denervation.⁴

References

1. Jorda, R., Hendrychová, D., Voller, J., *et al.* How selective are pharmacological inhibitors of cell-cycle-regulating cyclin-dependent kinases? *J. Med. Chem.* **61**(20), 9105-9120 (2018).
2. Hsieh, Y.-Y., Chou, C.-J., Lo, H.-L., *et al.* Repositioning of a cyclin-dependent kinase inhibitor GW8510 as a ribonucleotide reductase M2 inhibitor to treat human colorectal cancer. *Cell Death Discov.* **2**, 16027 (2016).
3. Wimalasena, N.K., Le, V.Q., Wimalasena, K., *et al.* Gene expression-based screen for Parkinson's disease identifies GW8510 as a neuroprotective agent. *ACS Chem. Neurosci.* **7**(7), 857-863 (2016).
4. Chen, Y., Liu, Z., Liu, C., *et al.* GW8510 alleviates muscle atrophy and skeletal muscle dysfunction in mice through AMPK/PGC1α signaling. *Int. J. Mol. Med.* **56**(3), 128 (2025).

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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