

M1257 - Berberine sulfate (berberine hemisulfate salt, Natural Yellow 18)

Molecular Weight: 384.39

Molecular Formula: C₂₀H₁₈NO₄ (SO₄)_{0.5}

CAS Number: [633-66-9]

Alternative Name: berberine hemisulfate salt, Natural Yellow 18

Description: Useful as a fluorescent stain for heparin in several cell lines.

Application: An effector for MDR (multidrug resistance) efflux pumps and is potentiated by the MDR inhibitor 5'-methoxyhydnocarpin (5'-MHC). Treatment with berberine potentially results in the reduced accumulation of chemotherapeutic drugs. Berberine upregulates the expression of Pgp in hepatoma cells.

References:

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- Lin, H.L. (1999) "Up-regulation of multidrug resistance transporter expression by berberine in human and murine hepatoma cells." Cancer 85: 1937-1942.
- Schumacher, M.A., Miller, MC, Grkovic, S, Brown, MH, Skurray, RA, Brennan RG, (2001) "Structural Mechanisms of QacR Induction and Multidrug Recognition." Science 294: 2158-2163.
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- Dimlich RV, Meineke HA, Reilly FD, McCuskey RS (1980) "The fluorescent staining of heparin in mast cells using berberine sulfate: compatibility with paraformaldehyde or o-phthalaldehyde induced fluorescence and metachromasia." Stain Technol. 55(4):217-23.