



CERTIFICATE of ANALYSIS

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| PRODUCT: | H-89 . dihydrochloride, Protein kinase inhibitor [N-[2-(<i>p</i> -Bromocinnamylamino)ethyl]-5- isoquinolinesulfonamide . 2 HCl], C ₂₀ H ₂₀ BrN ₃ O ₂ S . 2HCl, M.W. 519.2, CAS # [127243-85-0] |
| PRODUCT NUMBER: | H-1024 |
| LOT NUMBER: | B1966 |
| APPEARANCE: | White to off-white solid |
| MP: | 141-143°C |
| SOLUBILITY: | Soluble in DMSO (25mg/ml), methanol or 50% ethanol/water (20mg/ml). |
| PURITY (TLC): | 99% |
| PRODUCT DESCRIPTION: | Cell permeable potent and selective inhibitor of cAMP- and cGMP-dependent protein kinases (PKA, K _i = 48nM, and PKG) and protein kinase C _μ (PKC _μ). In contrast, most other protein kinase C (PKC) isotypes are much more weakly inhibited. Also inhibits Ca ²⁺ /calmodulin- dependent protein kinase II, casein kinase I and myosin light chain kinase. Induces apoptosis. Concentration range for cultured cells 30-100μM: osteoblastic cells, renal proximal tubule cells and Xenopus oocytes. |
| STORAGE & HANDLING: | Keep cool and dry at +4°C. Store solutions at -20°C for up to 4 months in DMSO. CAUTION: For laboratory research & scientific manufacturing use only. Not for human or drug use. The pharmacological and toxicological properties of this product have not been fully investigated. Use caution when handling. Do not use this compound if you are not fully trained or are unaware of the hazards involved. |

Verified: DD