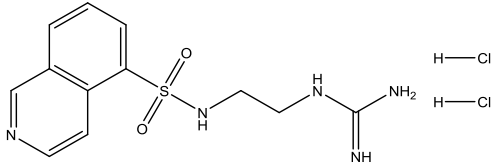




Certificate of Analysis

| MedKoo Cat#: | Product Name: | Lot#: |
|--------------|---------------|----------|
| 526339 | HA-1004 HCl | C9M09C23 |

| Chemical name | |
|---|---|
| N-(2-Guanidinoethyl)-5-isoquinolinesulfonamide Dihydrochloride | |
| Synonyms | |
| HA-1004; HA 1004; HA1004; HA-1004 HCl; HA-1004 dihydrochloride | |
| Chemical structure | CAS# and Theoretical analysis |
|  | MedKoo Cat#: 526339 Name: HA-1004 HCl CAS#: 92564-08-4 (2HCl), Lot#: C9M09C23 Chemical Formula: C ₁₂ H ₁₇ Cl ₂ N ₅ O ₂ S Exact Mass: 365.048 Molecular Weight: 366.261 |

| Analysis item | Specifications / Results |
|--------------------|--|
| Appearance | White to off-white solid powder |
| Structure | ¹ H-NMR analysis matches the structure. MS analysis gives the correct molecule weight. Both NMR and MS data are consistent with those reported in the literature. |
| Purity (HPLC) | >98.0% |
| Solubility | Soluble in DMSO |
| Conclusion | This product conforms with MedKoo's quality standards |
| Shipping condition | Shipped under ambient temperature as non-hazardous chemical. This product is stable for a few weeks during ordinary shipping and time spent in customs. |
| Storage condition | Short term storage (weeks): 0 – 4 °C under dry condition Long term storage (months): -20 °C under dry condition |
| Shelf life | At least 5 years if properly stored. |

CAUTION: NOT FULLY TESTED. FOR RESEARCH ONLY, NOT FOR HUMAN USE