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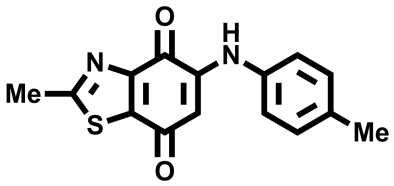
# Lysine Methyltransferase SETD8 Inhibitor – Ryuvidine

**Chemical Name:** 2-methyl-5-(p-tolylamino)benzo[d]thiazole-4,7-dione

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|---|---|
| Molecular Weight: | 284.33 |
| Formula: | $C_{15}H_{12}N_2O_2S$ |
| Purity: | ≥98% |
| CAS#: | 265312-55-8 |
| Solubility: | DMSO up to 20 mM |
| Storage | Powder: 4 °C 1 year<br>DMSO: 4 °C 3 months<br>-20 °C 1 year |

**Biological Activity:**

Ryuvidine is a potent, selective and cell permeable lysine methyltransferase SETD8 inhibitor with $IC_{50}$ ~0.5 μM. It has cellular activity by suppressing the H4K20me1 mark of SETD8 and recapitulate characteristic S/G2/M-phase cell cycle defects as observed for RNAi-mediated SETD8 knockdown. It also inhibits cyclin-dependent kinase (CDK) 4 ($IC_{50}$ ~6.0 μM at CDK4/cyclin D1). SETD8's methyltransferase activity has been implicated in many essential cellular processes including DNA replication, DNA damage response, transcription modulation, and cell cycle regulation. Ryuvidine is a good tool compound to elucidate the diverse roles of SETD8.

**How to Use:**

**In vitro:** Ryuvidine was used at 10 μM final concentration in various in vitro assays.

**In vivo:** n/a

**Reference:**

1. Ryu CK, et al. 5-Arylamino-2-methyl-4,7-dioxobenzothiazoles as inhibitors of cyclin-dependent kinase 4 and cytotoxic agents. (2000) Bioorg Med Chem Lett. 10(5):461-4.
2. Blum G, et al. Small-molecule inhibitors of SETD8 with cellular activity. (2014) ACS Chem Biol. 9(11):2471-8.