

Catalog # 10-3385

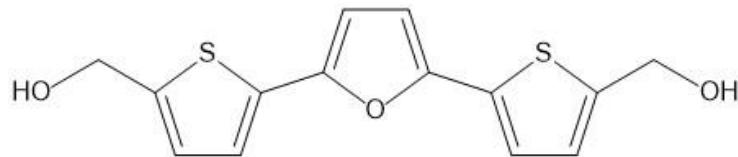
RITA

CAS# 213261-59-7

5,5'-(2,5-Furandiyl)bis-2-thiophenemethanol

NSC 652287

Lot # X109825



RITA (reactivation of p53 and induction of tumor cell apoptosis) binds to p53 ($K_d = 1.5$ nM), changing its conformation, preventing it from binding to HDM2 (human ortholog of MDM2, Mouse Double-Minute clone 2), and preventing its proteasomal degradation.¹ It also weakly (computed $K_d = 22$ μ M) binds HDM2 in the cleft that contacts the p53 transactivation domain.² Its restoration of mutant p53 function depends on eIF2 α phosphorylation, and it induces apoptosis via p53-dependent and -independent (JNK/SAPK/p38; protein translation) pathways.³⁻⁵ Induces senescence in head and neck cancer cells.⁶

- 1) Issaeva *et al.* (2004), *Small molecule RITA binds to p53, blocks p53-HDM-2 interaction and activates p53 function in tumors*; *Nat. Med.*, **10** 1321
- 2) Espinoza-Fonseca *et al.* (2005), *Targeting MDM2 by the small molecule RITA: towards the development of new multi-target drugs against cancer*; *Theor. Biol. Med. Model.*, **2** 38
- 3) Ristau *et al.* (2019), *RITA requires eIF2 α -dependent modulation of mRNA translation for its anti-cancer activity*; *Cell Death Dis.*, **10** 845
- 4) Zhao *et al.* (2010), *Rescue of the apoptotic-inducing function of mutant p53 by small molecule RITA*; *Cell Cycle*, **9** 1847
- 5) Weilbacher *et al.* (2014), *RITA can induce cell death in p53-defective cells independently of p53 function via activation of JNK/SAPK and p38*; *Cell Death Dis.*, **5** e1318
- 6) Chuang *et al.* (2014), *The p53-reactivating small molecule RITA induces senescence in head and neck cancer cells*; *PLoS One*, **9(8)** e104821

PHYSICAL DATA

Molecular Weight: 292.37

Molecular Formula: C₁₄H₁₂O₃S₂

Purity: 98% by TLC

NMR: (Conforms)

Solubility: DMSO (up to 20 mg/ml)

Physical Description: Yellow solid

Storage and Stability: Store as supplied desiccated at -20°C for up to 2 years from the date of purchase. Solutions in DMSO may be stored at -20°C for up to 3 months.

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