NEUROMICS

DRB Data Sheet

Catalog Number:	MC11099	**Product Type:**	Small Molecule
Bio-Activity:	Transcription inhibitor; CK2 inhibitor	**CAS #:**	53-85-0
Research Categories:	Cancer	**Chemical Name:**	5,6-Dichloro-1-β-D-ribofuranosylbenzimidazole
Solubility:	Soluble in DMSO (up to 20 mg/ml)	**Molecular Formula:**	C12H12Cl2N2O4
Purity:	> 98%	**Molecular Weight:**	319.14
Format:	Powder	**Ship Temp:**	Ambient
Storage:	Room Temperature		

Application Notes

Description/Data:
A classic inhibitor of transcription by RNA polymerase II. A relatively selective inhibitor of Cdk9 (IC50=3 μM), the kinase of the positive transcription elongation factor b (P-TEF-b) required for processive transcription elongation by RNA polymerase II [1,2]. Also inhibits casein kinase II, IC50=4-10 μM [3]. Suppresses the SIRT1/CK2α pathway and enhances the radiosensitivity of human cancer cells [4]. Kinase-independent activities of Cdk9 such as glucocorticoid receptor modulation are not inhibited by DRB [5].

References:

1) Baumli et al. (2010), Halogen bonds form the basis for selective P-TEFb inhibition by DRB; Chem.Biol., 17 931

2) Yamaguchi et al. (1998), Interplay between positive and negative elongation factors: drawing a new view of DRB; Genes Cells, 3 9

3) Zandomeni (1989), Kinetics of inhibition by 5,6-dichloro-1-beta-D-ribofuranosylbenzimidazole; Biochem.J., 262 469

4) Wang et al. (2014), Inhibition of P-TEFb by DRB suppresses SIRT1/CK2α pathway and enhances radiosensitivity of human cancer cells; Anticancer Res., 34 6981

5) Zhu et al. (2014), A kinase-independent activity of Cdk9 modulates glucocorticoid receptor-mediated gene induction; Biochemistry, 53 1753

FOR RESEARCH USE ONLY

Neuromics Antibodies • 5325 West 74th Street, Suite 8 • Edina, MN 55439
phone 866-350-1500 • fax 612-677-3976 • e-mail: pshuster@neuromics.com