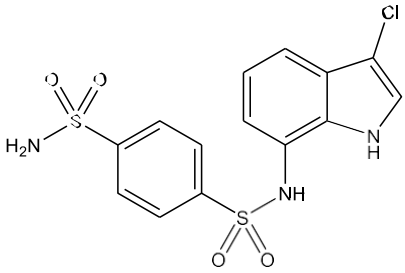
Catalog # 10-3927
Indisulam

CAS# 165668-41-7

4-N-(3-Chloro-1H-indol-7-yl)benzene-1,4-disulfonamide; E7070

Lot # FBA9095



Indisulam was originally described as a potent antitumor agent that targeted the G1 phase of cell cycle *via* suppression of activation of CDK2 and cyclin E expression.[1] More recently it has been found to act as a molecular glue promoting the recruitment of RNA binding motif protein 39 (RBM39) to the CUL4-DCAF15 E3 ubiquitin ligase leading to proteasomal degradation.[2] Removal of splicing factor RBM39 leads to altered RNA splicing and death in multiple cancer cell lines – Indisulam alters the expression of more than 3000 genes and causes widespread intron retention and exon skipping.[3] It induced metabolome perturbations and mitochondrial dysfunction in neuroblastoma models leading to complete tumor regression without relapse.[4] Arginine has been found to bind to RBM39 causing reprogramming of metabolic genes to promote tumor growth – indisulam treatment leading to RBM39 degradation mimics arginine depletion resulting in reduced growth in patient-derived hepatocellular carcinoma organoids.[5]

1) Owa *et al*. (1999), *Discovery of Novel Antitumor Sulfonamides Targeting G1 Phase of the Cell Cycle*; J. Med. Chem. **42** 3789

2) Han *et al*. (2017); *Anticancer sulfonamides target splicing by inducing RBM39 degradation via recruitment to DCAF15*, Science, **356** eaal3755

3) Ting *et al*. (2019); *Aryl Sulfonamides Degrade RBM39 and RBM23 by Recruitment to CRL4-DCAF15*, Cell Rep., **29** 1499

4) Nijhuis *et al*. (2022); *Indisulam targets RNA splicing and metabolism to serve as a therapeutic strategy for high-risk neuroblastoma*, Nat. Commun., **13** 1380

5) Mossmann *et al*. (2023), *Arginine reprograms metabolism in liver cancer via RBM39*; Cell **186** P5068

PHYSICAL DATA

Molecular Weight:	385.84
Molecular Formula:	$C_{14}H_{12}ClN_3O_4S_2$
Purity:	>98% by HPLC
	NMR: (Conforms)
Solubility:	DMSO (>25 mg/ml)
Physical Description:	Off-white solid
Storage and Stability:	Store as supplied 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 1 month.

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