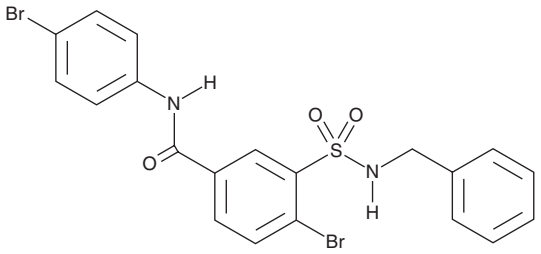
PRODUCT INFORMATION

RS-1

Item No. 21037

CAS Registry No.:	312756-74-4
Formal Name:	4-bromo-N-(4-bromophenyl)-3-[[(phenylmethyl)amino]sulfonyl]-benzamide
MF:	$C_{20}H_{16}Br_2N_2O_3S$
FW:	524.2
Purity:	≥95%
UV/Vis.:	λ_{max}: 281 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

RS-1 is supplied as a crystalline solid. A stock solution may be made by dissolving the RS-1 in the solvent of choice, which should be purged with an inert gas. RS-1 is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of RS-1 in these solvents is approximately 20 and 30 mg/ml, respectively.

RS-1 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, RS-1 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. RS-1 has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

RS-1 is an activator of DNA repair protein RAD51 (K_d = 48-107 for human RAD51 with different cofactors present).[1] It stimulates homologous strand assimilation activity at least 5- to 11-old, enhancing homologous recombination activity of hRAD51.[1] RS-1 is a potent enhancer of CRISPR-mediated genome editing, increasing homology directed repair 3- to 6-fold.[2] It is used to increase CRISPR-mediated knock-in efficiencies *in vitro* and *in vivo*.[2-4]

References

1. Jayathilaka, K., Sheridan, S.D., Bold, T.D., *et al.* A chemical compound that stimulates the human homologous recombination protein RAD51. *Proc. Natl. Acad. Sci. USA* **105(41)**, 15848-15853 (2008).
2. Pinder, J., Salsman, J. and Dellaire, G. Nuclear domain 'knock-in' screen for the evaluation and identification of small molecule enhancers of CRISPR-based genome editing. *Nucleic Acids Res.* **43(19)**, 9379-9392 (2015).
3. Pan, Y., Shen, N., Jung-Klawitter, S., *et al.* CRISPR RNA-guided FokI nucleases repair a PAH variant in a phenylketonuria model. *Sci. Rep.* **6**, 65794 (2016).
4. Song, J., Yang, D., Xu, J., *et al.* RS-1 enhances CRISPR/Cas9- and TALEN-mediated knock-in efficiency. *Nat. Commun.* **7**, 10548 (2016).

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