

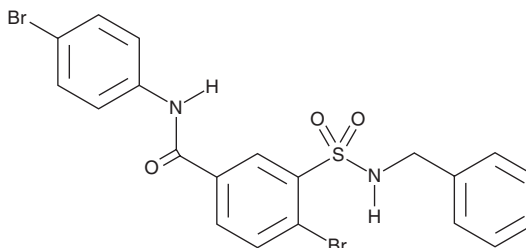
# PRODUCT INFORMATION



## 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<sub>20</sub>H<sub>16</sub>Br<sub>2</sub>N<sub>2</sub>O<sub>3</sub>S  
**FW:** 524.2  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 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<sub>d</sub> = 48-107 for human RAD51 with different cofactors present).<sup>1</sup> It stimulates homologous strand assimilation activity at least 5- to 11-fold, enhancing homologous recombination activity of hRAD51.<sup>1</sup> RS-1 is a potent enhancer of CRISPR-mediated genome editing, increasing homology directed repair 3- to 6-fold.<sup>2</sup> It is used to increase CRISPR-mediated knock-in efficiencies *in vitro* and *in vivo*.<sup>2-4</sup>

### 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).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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