

# RG108

Epigenetic modifier; Inhibits DNA methyltransferase (DNMT)

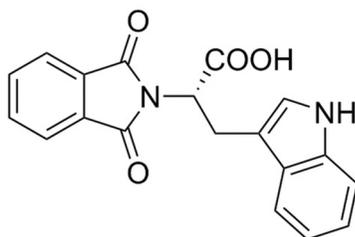
Catalog #72212	5 mg
Catalog #72214	10 mg

## Product Description

RG108 is an epigenetic modifier that inhibits DNA methyltransferase ( $IC_{50} = 115$  nM). RG108 is a non-nucleoside inhibitor that acts by direct binding to the methyltransferase enzyme whereby it blocks the enzyme active site (Brueckner et al.; Stresemann et al.).

Alternative Names:	N-Phthalyl-L-Tryptophan
CAS Number:	48208-26-0
Chemical Formula:	$C_{19}H_{14}N_2O_4$
Molecular Weight:	334.3 g/mol
Purity:	≥ 98%
Chemical Name:	$\alpha$ -(1, 3-dihydro-1, 3-dioxo-2H-isoindol-2-yl)-( $\alpha$ S)-1H-indole-3-propanoic acid

Structure:



## Properties

<b>Product Format:</b>	A crystalline solid
<b>Stability and Storage:</b>	Product stable at -20°C as supplied. As a precaution, STEMCELL recommends storing all small molecules away from direct light. Stable as supplied for 12 months from date of receipt.
<b>Preparation:</b>	<p><b>Solubility:</b></p> <ul style="list-style-type: none"><li>• DMSO <math>\leq</math> 90 mM</li><li>• Absolute ethanol <math>\leq</math> 150 mM</li></ul> <p>For example, to prepare a 10 mM stock solution in DMSO, resuspend 5 mg in 1.50 mL of fresh DMSO.</p> <p>Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.</p> <p>Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO or absolute ethanol concentration above 0.1% due to potential cell toxicity.</p>

## Published Applications

### REPROGRAMMING

- Enhances reprogramming efficiency of human and mouse somatic cells to induced pluripotent stem (iPS) cells (Mali et al.; Pasha et al.; Shi et al.).

## References

- Brueckner B et al. (2005) Epigenetic reactivation of tumor suppressor genes by a novel small-molecule inhibitor of human DNA methyltransferases. *Cancer Res* 65(14): 6305–11.
- Mali P et al. (2010) Butyrate greatly enhances derivation of human induced pluripotent stem cells by promoting epigenetic remodeling and the expression of pluripotency-associated genes. *Stem Cells* 28(4): 713–20.
- Pasha Z et al. (2011) Efficient non-viral reprogramming of myoblasts to stemness with a single small molecule to generate cardiac progenitor cells. *PLoS One* 6(8): e23667.
- Shi Y et al. (2008) Induction of pluripotent stem cells from mouse embryonic fibroblasts by Oct4 and Klf4 with small-molecule compounds. *Cell Stem Cell* 3(5): 568–74.
- Stresemann C et al. (2006) Functional diversity of DNA methyltransferase inhibitors in human cancer cell lines. *Cancer Res* 66(5): 2794–800.

## Related Products

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