ID-8

Small Molecules

DYRK pathway inhibitor

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Catalog # 72502 5 mg

# **Product Description**

ID-8 is an indole derivative (Miyabayashi et al.) that inhibits dual-specificity tyrosine phosphorylation-regulated kinase (DYRK; Hasegawa et al.).

Molecular Name: ID-8

Alternative Names: Not applicable CAS Number: 147591-46-6 Chemical Formula:  $C_{16}H_{14}N_2O_4$  Molecular Weight: 298.3 g/mol Purity:  $\geq 98\%$ 

Chemical Name: 1-(4-methoxyphenyl)-2-methyl-3-nitro-1H-indol-6-ol

Structure:

# **Properties**

Physical Appearance: A crystalline solid

Storage: Product stable at -20°C as supplied. Protect from prolonged exposure to light. For product expiry date, please

contact techsupport@stemcell.com.

Solubility:  $\cdot$  DMSO  $\leq$  80 mM

For example, to prepare a 10 mM stock solution in DMSO, resuspend 1 mg in 335  $\mu L$  of fresh DMSO.

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.

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 concentration above 0.1% due to potential cell toxicity.

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## **Published Applications**

MAINTENANCE AND SELF-RENEWAL

- · Enables maintenance of mouse embryonic stem (ES) cells in the absence of mouse embryonic fibroblast (MEF) feeder cells, serum, or LIF (Miyabayashi et al.).
- · In combination with WNT, supports human ES cell proliferation and survival, without FGF or TGF\$ (Hasegawa et al.).

### References

Hasegawa K et al. (2011) Wnt Signaling Orchestration with a Small Molecule DYRK Inhibitor Provides Long-Term Xeno-Free Human Pluripotent Cell Expansion. Stem Cells Transl Med 1(1): 18–28.

Miyabayashi T et al. (2008) Indole derivatives sustain embryonic stem cell self-renewal in long-term culture. Biosci Biotechnol Biochem 72(5): 1242–8.

### Related Small Molecules

For a complete list of small molecules available from STEMCELL Technologies, please visit our website at www.stemcell.com/smallmolecules or contact us at techsupport@stemcell.com.

# This product is hazardous. Please refer to the Safety Data Sheet (SDS).

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