# Small Molecules

**ID-8**

DYRK pathway inhibitor

Catalog # 72502

5 mg

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## Product Description

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

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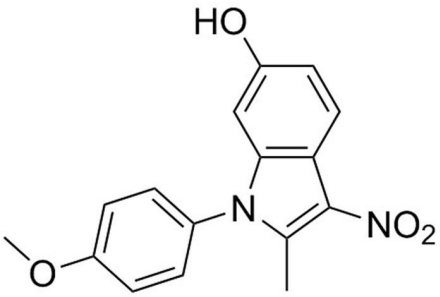
| Molecular Name: | ID-8 |
| Alternative Names: | Not applicable |
| CAS Number: | 147591-46-6 |
| Chemical Formula: | $C_{16}H_{14}N_2O_4$ |
| Molecular Weight: | 298.3 g/mol |
| Purity: | ≥ 98% |
| Chemical Name: | 1-(4-methoxyphenyl)-2-methyl-3-nitro-1H-indol-6-ol |
| Structure: |  |



## Properties

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| 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: | · DMSO ≤ 80 mM<br>For example, to prepare a 10 mM stock solution in DMSO, resuspend 1 mg in 335 µL of fresh DMSO.<br><br>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.<br><br>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. |

## 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 TGFβ (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

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