

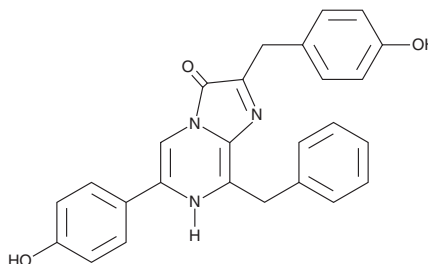
PRODUCT INFORMATION



Coelenterazine

Item No. 16123

CAS Registry No.: 55779-48-1
Formal Name: 6-(4-hydroxyphenyl)-2-[(4-hydroxyphenyl)methyl]-8-(phenylmethyl)-imidazo[1,2-a]pyrazin-3(7H)-one
Synonyms: Luciferin (Oplophorus), Preluciferin (Watasenia)
MF: C₂₆H₂₁N₃O₃
FW: 423.5
Purity: ≥85%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Special Conditions: Do not dissolve in DMSO, may oxidize

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

Laboratory Procedures

Coelenterazine is supplied as a crystalline solid. A stock solution may be made by dissolving the coelenterazine in the solvent of choice, which should be purged with an inert gas. Coelenterazine is soluble in organic solvents such as ethanol and methanol. The solubility of coelenterazine in these solvents is approximately 0.5 mg/ml.

Description

Coelenterazine is a luciferin, a light-emitting biomolecule that serves as a substrate for luciferases or as a constituent of photoproteins, including aequorin.¹ The oxidation of coelenterazine to coelenteramide is accompanied by emission of blue light (emission maximum, 460-470 nm). Luciferase-mediated oxidation of coelenterazine or a derivative is used as an energy donor, typically to a form of green or yellow fluorescent protein, in bioluminescent resonance energy transfer studies.^{2,3} Alternatively, the calcium-mediated release of coelenterazine from aequorin, followed by non-enzymatic oxidation of this compound, results in bioluminescence. As light emission depends on both calcium and cellular redox status, this reaction is used to non-fluorescently detect changes in calcium level and redox status.^{4,5}

References

1. Sabnis, R.W. *Handbook of biological dyes and stains: Synthesis and industrial applications*. 1st edition, John Wiley & Sons, Inc. (2010).
2. Pflieger, K.D. and Eidne, K.A. Illuminating insights into protein-protein interactions using bioluminescence resonance energy transfer (BRET). *Nat. Methods* **3**(3), 165-174 (2006).
3. Dacres, H., Dumancic, M.M., Horne, I., et al. Direct comparison of bioluminescence-based resonance energy transfer methods for monitoring of proteolytic cleavage. *Anal. Biochem.* **385**(2), 194-202 (2009).
4. Stables, J., Green, A., Marshall, F., et al. A bioluminescent assay for agonist activity at potentially any G-protein-coupled receptor. *Anal. Biochem.* **252**(1), 115-126 (1997).
5. Teranishi, K. and Shimomura, O. Coelenterazine analogs as chemiluminescent probe for superoxide anion. *Anal. Biochem.* **249**(1), 37-43 (1997).

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.

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