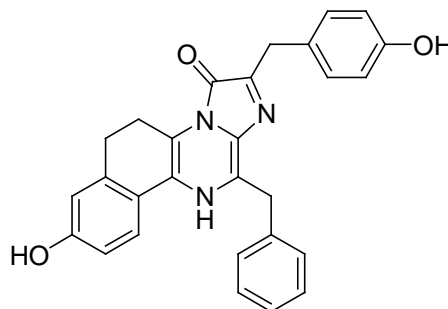


PRODUCT AND SAFETY DATA SHEET

PRODUCT NAME: Coelenterazine *e***CATALOG #:** 10124/10124-2**MOLECULAR INFORMATION:** C₂₈H₂₃N₃O₃
Mwt: 449.5**PROPERTIES:**

Color & Form	Dark brown solid
Purity	≥ 90% by TLC
Solubility	Soluble in MeOH or EtOH. AVOID DMSO
Absorption/Emission	See Table 2 & 3 below

STORAGE AND HANDLING:

Solution is susceptible to oxidation by air. For best results, keep solution from light and store at < -70°C under nitrogen or argon. Keep solid at -20 °C or -70 °C and protect from light under nitrogen or argon for long-term storage. Keep calcium free when stored in solution (avoid using glass container).

APPLICATION:

Coelenterazine *e* is a synthetic derivative of coelenterazine, and is a superior substrate for *Renilla* luciferase. Coelenterazine *e* generates nearly 40% more light than native coelenterazine does while the initial light intensity of the former is more than 7 times higher than that of the latter.¹ The emission spectrum of coelenterazine *e*/*Renilla* luciferase has two peaks centered at 418 and 475 nm, respectively (See **Figure 1**).

Coelenterazine *e* is also a good substrate for apoaequorin and, compared with coelenterazine (native), the *e*-aequorin complex formed from coelenterazine *e* has a faster luminescence rise time and shows two emission peaks at 405 and 465 nm respectively, with the ratio of the peak heights dependent on calcium concentration in the range of pCa 5-7.² The dual emission makes coelenterazine *e*/apoaequorin possible to be used for calcium detection using the ratio of the two emission intensities. **Tables 2 and 3** compare different coelenterazine analogs as substrates for apoaequorin and *Renilla* luciferase, respectively.

Ref: 1) *Biochem. J.* **251**, 405(1988); 2) *Biochem. Biophys. Res. Commun.* **233**, 349(1997); 3) *Mol Imaging*, **3** (1), 43(2004 Jan)

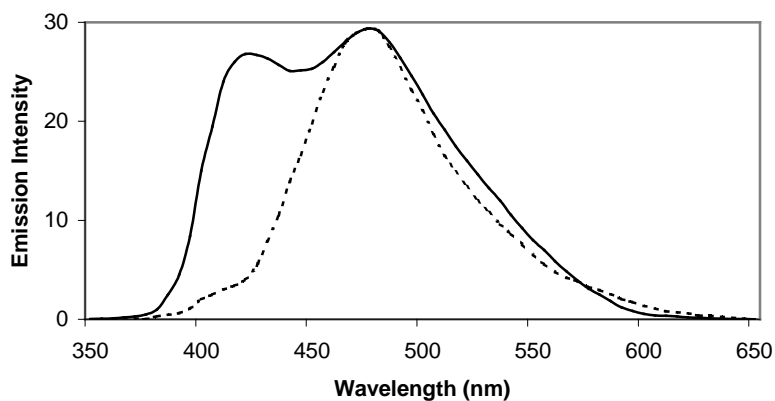


Figure 1. Emission spectra (normalized) of coelenterazine, native (dotted line) and coelenterazine *e* (solid line) in the presence of recombinant *Renilla* luciferase.

Table 2. Luminescent Properties of Coelenterazine Products with Apoaequorin*

Cat. #	Coelenterazine Product	Emission Maximum (nm)	Relative Luminescence capacity	Relative Intensity	Half-rise Time (s)
10110	native	466	1.00	1.00	0.4-0.8
10112	<i>cp</i>	442	0.95	15	0.15-0.3
10124	<i>e</i>	405/465	0.5	4	0.15-0.3
10114	<i>f</i>	473	0.80	18	0.4-0.8
10117	<i>fcp</i>	452	0.57	135	0.4-0.8
10111	<i>h</i>	466	0.82	10	0.4-0.8
10113	<i>hcp</i>	444	0.67	190	0.15-0.3
10121	<i>i</i>	476	0.70	0.03	8
10116	<i>ip</i>	441	0.54	47	1
10115	<i>n</i>	467	0.26	0.01	5

*All data from *Biochem. J.* **261**, 913(1989)

Table 3. Luminescent Properties of Coelenterazine Analogs with Renilla Luciferase*

Cat. #	Coelenterazine Product	Emission Maximum (nm)	Total Light (%)	Initial Intensity (%)
10110	native	475	100	100
10112	<i>cp</i>	470	23	16
10124	<i>e</i>	418 and 475	137	750
10114	<i>f</i>	473	28	58
10111	<i>h</i>	475	41	57
10115	<i>n</i>	475	47	68

* All data from *Biochem. Biophys. Res. Commun.* 233, 349(1997)

TOXICITY: Unknown

FIRST AID:	Potentially harmful. Avoid prolonged or repeated exposure. Avoid getting in eyes, on skin, or on clothing. Wash thoroughly after handling. If eye or skin contact occurs, wash affected areas with plenty of water for 15 minutes and seek medical advice. In case of inhaling or swallowing, move individual to fresh air and seek medical advice immediately.
-------------------	---

Disclaimer: <i>Materials from Biotium are sold for research use only, and are not intended for food, drug, household, or cosmetic use. Biotium is not liable for any damage resulting from handling or contact with this product.</i>
--