

Product datasheet

Gaussia Luciferase Cellular Assay Kit ab189814

1 References

Overview

Product name

Gaussia Luciferase Cellular Assay Kit

Product overview

Gaussia Luciferase is a new reporter gene isolated from the marine copepod *Gaussia princeps*. Gaussia luciferase can be expressed in mammalian cells using commercially available reporter plasmids. This luciferase, which does not require ATP, catalyzes the oxidation of the substrate coelenterazine in a reaction that emits light (at 470 nm), and has considerable advantages over other reporter genes. *Gaussia* Luciferase possesses a natural secretory signal and upon expression is secreted into the cell medium of cells grown in culture. Therefore, cell lysis is not necessary for assaying expression levels. In addition, the gene product has a molecular weight of only 19.9 kD (185 AA) making it one of the smallest known luciferases. The enzyme also has a broad pH optimum centered at 7.7, with activity dependent upon the concentration of monovalent cations. The enzyme is resistant to decomposition due to exposure to heat, cold, strongly acidic or basic conditions. Analysis of the gene sequence indicates a secretory signal that functions in both prokaryotes and eukaryotes. Most importantly, *Gaussia* luciferase is reported to generate over 1000-fold higher bioluminescent signal intensity, compared to Firefly and *Renilla* Luciferases, making it an ideal transcriptional reporter for cell culture assays. The secreted protein is very stable and can be stored for several days at 4°C without significant loss of activity. The substrate, coelenterazine, is common to a number of marine bioluminescent reactions, including those from *Renilla*, *Aequorea* and *Watesenia*. In some of these reactions it is utilized as a simple substrate being catalytically turned over in the bioluminescent reaction, while in others, such as in the photoprotein systems of Mneipsis, it is incorporated as part of the photoprotein.

Emission: 470 nm.

Notes

Abcam's Gaussia Luciferase Cellular Assay Kit (ab189814) contains enough reagents for 100 tests using a microtiterplate format and includes buffers, solvents and a detailed protocol for use in quickly measuring the luciferase activity in mammalian cell culture.

Platform

Microplate reader

Properties

Storage instructions

Store at +4°C. Please refer to protocols.

Components	100 tests
Assay Buffer	1 x 5ml

Components	100 tests
Coelenterazine	1 vial
Dilution Buffer	1 x 5ml
Lysis Buffer	1 x 5ml

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