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Anti-Renilla Luciferase Antibody

Art. ID	SAF-MAB4410-I-100UL
Unit	1 x 100 μL
Deliverydetails	No Dangerous Good

Description

Coelenterazine h 2-monooxygenase (UniProt: P27652, also known as EC:1.13.12.5, Renilla-luciferin 2-monooxygenase, Renilla-type luciferase) is a monomeric, bioluminescent protein derived from the sea pansy (Renilla reniformis). Due to its light emitting abilities, the luciferase from Renilla reniformis has been widely used in molecular biology as a reporter gene in cell culture experiments and small animal imaging. Renilla luciferase is shown to be present in membrane-bound intracellular structures within specialized light-emitting cells along with a closely interacting green fluorescent protein (RrGFP) and a calcium- activated luciferin-binding protein. Upon binding the substrate, it catalyzes an oxygenation reaction, producing a very short-lived hydroperoxide that cyclizes into a dioxetanone structure that collapses, releasing a CO2 molecule. The spontaneous breakdown of the dioxetanone releases the energy that is necessary to generate the excited state of the coelenteramide product, which is the singlet form of the monoanion. The optimum pH for this reaction is 7.4. It is shown that under in vivo conditions the product undergoes the process of nonradiative energy transfer to an accessory protein, a GFP, which results in green bioluminescence (~ 509 nm). However, in vitro, in the absence of GFP, it emits blue light (~480 nm). (Ref.: Loening, AM., et al. (2007). J. Mol. Biol. 374(4), 1017-1028, Lorenz, WW., et al. (1991). Proc. Natl. Acad. Sci. USA 88(10), 4438-4442).