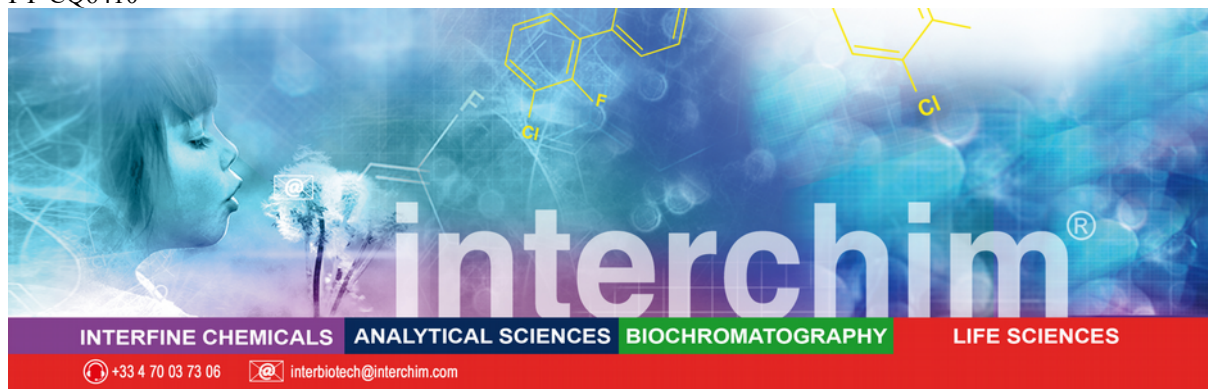


FT-CQ6410



Luc-Gal

Ultrasensitive *lacZ* Detection

Product Description

Name : **D-Luciferin-6-O-Galactopyranoside**

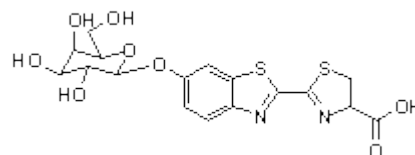
D-Luciferin-6-O-β-D-Galactoside
D-Luciferin-Galactoside

Catalog Number : FP-CQ6410 5 mg

Structure : C₁₇H₁₈N₂O₈S₂
CAS [131474-38-9]

Molecular Weight : MW= 422.47

Solubility: H₂O



Storage: -20°C >1 year Protect from light and moisture

Introduction

This analog of D-Luciferin contains a beta-galactoside attached at the 6-O-position, and thus is not a substrate for the firefly luciferase enzyme until the galactose is removed e.g., by beta-galactosidase activity. As such it represents an ultrasensitive substrate for chemiluminescent measurement of galactosidase activity in homogeneous assays, or in cell lysate samples when the enzyme luciferase is added. This substrate represents the active component of chemiluminescent galactosidase assay systems and when used as a dual substrate, beta-galactosidase levels can be determined with high sensitivity and can be quantified by the release of luciferin through luciferase reaction.

Another advantage of using *lacZ* beta-galactosidase as a bioluminescent probe is that this enzyme does not require ATP or other cofactors for extracellular enzyme detection methods, in contrast to luciferase which requires such intracellular cofactors. As a result, antibodies conjugated to the beta-galactosidase enzyme can be used to detect specific cells or tissues through extracellular antigens *in vivo*. Coupling of the ultrasensitive chemiluminescent detection properties of firefly luciferase system to the advantages of *lacZ* beta-galactosidase permits bioluminescent imaging applications that were previously not obtainable by other means.

Directions for use

Guidelines for use

Instructions may be found in the literature.



References

- **Fernández-Cuervo G.** et al., Diamagnetic Imaging Agents with a Modular Chemical Design for Quantitative Detection of β -Galactosidase and β -Glucuronidase Activities with CatalyCEST MRI, *Bioconjugate Chem.* (2016) [abstract](#)
- **Geiger R.** et al., A new ultrasensitive bioluminogenic enzyme substrate for beta-galactosidase, *Biol. Chem. Hoppe-Seyler* 373(12): 1187-91 (1992)
- **Gu K.** et al., Real-Time Tracking and In Vivo Visualization of β -Galactosidase Activity in Colorectal Tumor with a Ratiometric Near-Infrared Fluorescent Probe, *J. Am. Chem. Soc.*, 138 (16), pp 5334–5340 (2016) [abstract](#)
- **Khanna P.** et al., A new homogeneous enzyme immunoassay using recombinant enzyme fragments, *Clin. Chim. Acta* 33: 231-39 (1989)
- **Ugarova N.** et al., Bioluminescent assay of b-galactosidase using D-luciferin-o-b-galactoside, *Biolumin. Chemilumin. Proc. Int. Symp.*, 6th : 511-14 (1991)
- **Yang, Y.** et al., Homogeneous enzyme immunoassay modified for application to luminescence-based biosensors, *Anal. Biochem* 33: 102-107 (2005)

Technical and scientific information

Related / associated products and documents

See [BioSciences Innovations catalogue](#) and [e-search tool](#).

- X-Gal, [UP40534M](#)
- Plasmid DNA midiprep kit, IY9942
- β -galactosidase Assay Kit, Green Fluorescence, [JQ6830](#)
- β -galactosidase Assay Kit, Green Fluorescence, *in vivo*, [BN7260](#)
- β -galactosidase Assay Kit, Chemiluminescence, [BM8420](#)
- UptiFectin-ON DNA Transfection Reagent, [CK5060](#)

Ordering information

[Catalog size quantities and prices may be found at **www.interchim.com/**](#)

Please inquire for higher quantities (availability, shipment conditions).

For any information, please ask : FluoProbes® / Interchim; Hotline : +33(0)4 70 03 73 06

Disclaimer : Materials from FluoProbes® are sold **for research use only**, and are not intended for food, drug, household, or cosmetic use. FluoProbes® is not liable for any damage resulting from handling or contact with this product.