

PRODUCT INFORMATION



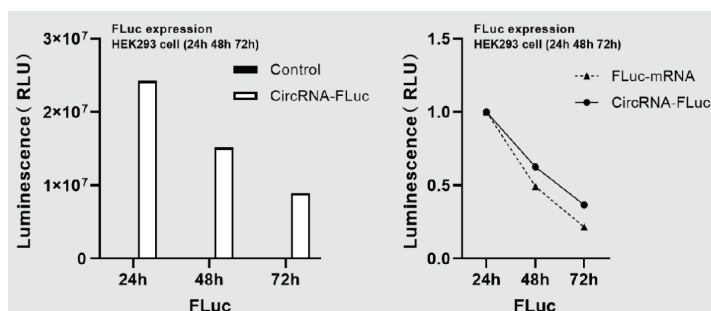
Firefly Luciferase circRNA

Item No. 45064

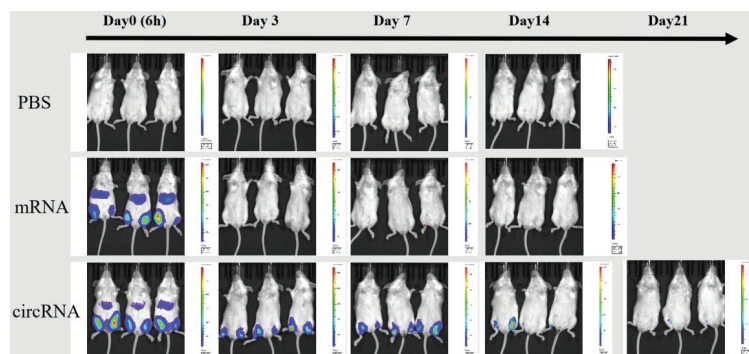
Overview and Properties

Synonyms: FLuc Circular RNA
Storage: -80°C (as supplied)
Stability: ≥1 year
Supplied as: A liquid
Concentration: 1 mg/ml
Em. Max: 560 nm

Images



50 ng circRNA-FLuc was transfected into 2×10^5 HEK293 cells with Lipo3000. HEK293 cells were collected and split 24, 48, and 72 hours later. Fluorescein substrate was added to detect luminescence intensity. The reduction rate of circRNA-FLuc expression was lower than that of linear FLuc mRNA.



In vivo imaging at different time points after FLuc mRNA-LNPs or FLuc circRNA-LNPs were injected (IM) in mice.

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.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Firefly luciferase (FLuc) circular RNA (circRNA) encodes firefly luciferase, a protein originally isolated from the firefly *P. pyralis*, that catalyzes the ATP-dependent oxidation of the molecule luciferin (D-luciferin; Item Nos. 25836 | 14682 | 14681) resulting in chemiluminescence at a wavelength of approximately 560 nm.¹ Exogenous circRNAs have increased stability and can produce sustained protein expression compared to mRNA.² Firefly luciferase circRNA has been used as a reporter for the delivery of circRNA via lipid nanoparticles (LNPs).³

References

1. Baldwin, T.O. Firefly luciferase: The structure is known, but the mystery remains. *Structure* **4(3)**, 223-228 (1996).
2. Wesselhoeft, R.A., Kowalski, P.S., and Anderson, D.G. Engineering circular RNA for potent and stable translation in eukaryotic cells. *Nat. Commun.* **9(1)**, 2629 (2018).
3. Alshehry, Y., Liu, X., Zhang, Y., *et al.* Investigation of the impact of lipid nanoparticle compositions on the delivery and T cell response of circRNA vaccine. *J. Control Release* **381**, 113617 (2025).

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