

# Luciferase (G-19): sc-28525

## BACKGROUND

Luciferase isolated from the common North American firefly, *Photinus pyralis*, is one of the most extensively studied enzymes that catalyze light production in bioluminescent organisms. Luciferase belongs to the ATP-dependent AMP-binding enzyme family. It produces green light with a wavelength of 562 nm. Following is the chemical catalytic reaction, which is catalyzed by Luciferase: *Photinus* Luciferin + O<sub>2</sub> + ATP = oxidized *Photinus* Luciferin + CO<sub>2</sub> + AMP + diphosphate + light.

## REFERENCES

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2. de Wet, J.R., Wood, K.V., DeLuca, M., Helinski, D.R. and Subramani, S. 1987. Firefly Luciferase gene: structure and expression in mammalian cells. *Mol. Cell. Biol.* 7: 725-737.
3. Keller, G.A., Gould, S., Deluca, M. and Subramani, S. 1987. Firefly luciferase is targeted to peroxisomes in mammalian cells. *Proc. Natl. Acad. Sci. USA* 84: 3264-3268.
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5. Dubuisson, M., Marchand, C. and Rees, J.F. 2004. Firefly luciferin as antioxidant and light emitter: the evolution of insect bioluminescence. *Luminescence* 19: 339-344.
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## SOURCE

Luciferase (G-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Luciferase of *Photinus pyralis* origin.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-28525 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

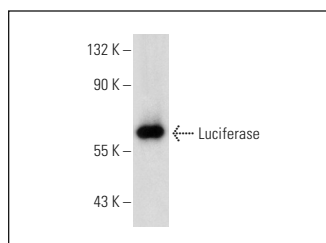
Luciferase (G-19) is recommended for detection of Luciferase of *Photinus pyralis* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of Luciferase: 62 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



Luciferase (G-19): sc-28525. Western blot analysis of *Photinus pyralis* recombinant Luciferase.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.