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Datasheet for 200-101-C44

# Luciferase Antibody

## Overview

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| **Description:** | Anti-Luciferase (GOAT) Antibody - 200-101-C44 |
| **Item No.:** | 200-101-C44 |
| **Size:** | 100 µg |
| **Applications:** | ELISA, WB, IF, IHC, Multiplex |
| **Reactivity:** | Luciferase |
| **Host Species:** | Goat |

## Product Details

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| **Background:** | Anti luciferase Antibody recognizes luciferase that is commonly used in biological research as a reporter to assess the transcriptional activity in cells that are transfected with a genetic construct containing the luciferase gene under the control of a promoter of interest. Luciferase can also be used to detect the level of cellular ATP in cell viability assays or for kinase activity assays. Additionally proluminescent molecules that are converted to luciferin upon activity of a particular enzyme can be used to detect enzyme activity in coupled or two-step luciferase assays. Such substrates have been used to detect caspase activity and cytochrome P450 activity, among others. |
| **Synonyms:** | goat anti-Luciferase Antibody, Luciferin 4-monooxygenase, Photinus pyralis (Common eastern firefly) (Lampyris pyralis) |
| **Host Species:** | Goat |
| **Clonality:** | Polyclonal |
| **Format:** | IgG |

## Target Details

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| **Reactivity:** | Luciferase |
| **Immunogen Type:** | Native Protein |
| **Immunogen:** | Luciferase [Photinus pyralis (Firefly)] |

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| **Purity/Specificity:** | This product is an IgG fraction antibody purified from monospecific antiserum by a multi-step process which includes delipidation, salt fractionation and ion exchange chromatography followed by extensive dialysis against the buffer stated above. Assay by immunoelectrophoresis resulted in a single precipitin arc against anti-Goat Serum as well as purified and partially purified Luciferase [Photinus pyralis (Firefly)]. No reactivity is observed against Sea pansy (Renilla reniformis) luciferase. |

## Application Details

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| **Tested Applications:** | ELISA, WB |
| **Suggested Applications:** | IF, IHC, Multiplex (Based on references) |
| **Application Note:** | Anti-Luciferase Antibody has been tested in Western Blot, IHC, IF, and ELISA. Expect a band ~60kDa in appropriate cell lysates. Although not tested, this antibody would be useful in immunoprecipitation, immunocytochemistry, and most immunological methods requiring high titers and specificity. |
| **Assay Dilutions:** | All assays should be optimized by the user. Recommended dilutions (if any) may be listed below. |
| **ELISA:** | 1:200 - 1:1000 |
| **IF:** | User Optimized |
| **IHC:** | 1:1500 |
| **WB:** | 1:1000 - 1:5000 |

## Formulation

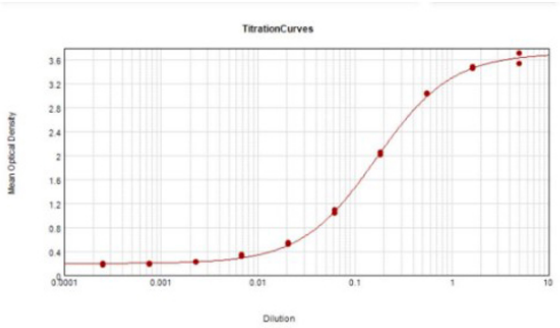
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| **Physical State:** | Liquid (sterile filtered) |
| **Concentration:** | 1.0 mg/ml by UV absorbance at 280 nm |
| **Buffer:** | 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2 |
| **Preservative:** | 0.01% (w/v) Sodium Azide |
| **Stabilizer:** | None |

## Shipping & Handling

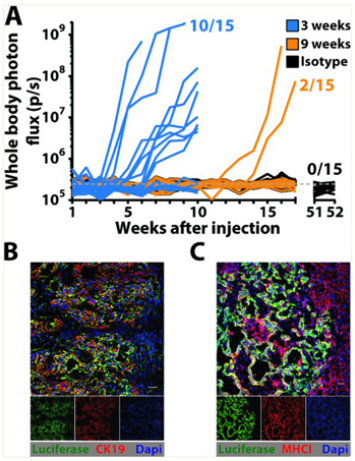
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| **Shipping Condition:** | Dry Ice |

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| **Storage Condition:** | Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use. |
| **Expiration:** | Expiration date is one (1) year from date of receipt. |

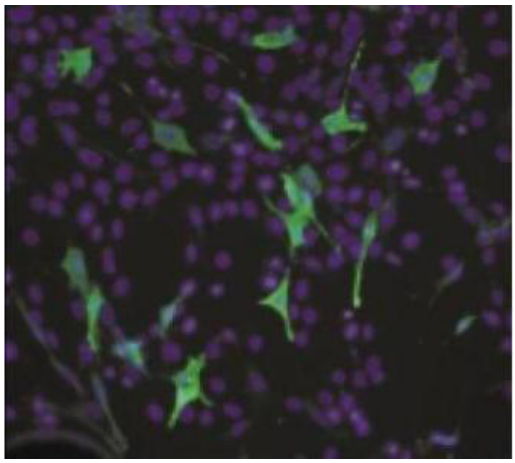
## Images



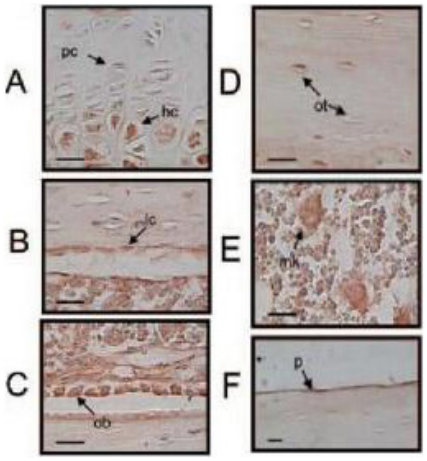

**ELISA**
ELISA Results of Goat Anti-Luciferase Antibody. Each well was coated in duplicate with 1.0 µg of Luciferase [Firefly]. The starting dilution of antibody was 5µg/ml and the X-axis represents the Log10 of a 3-fold dilution. The titer is 1:6,050. This titration is a 4-parameter curve fit where the IC50 is defined as the titer of the antibody. Assay performed using TMB substrate p/n TMBE-1000.



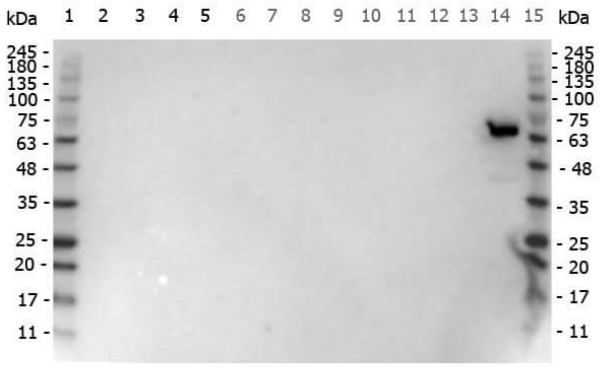

**Immunofluorescence Microscopy**
T cells control outgrowth of latent DCCs.
(A) The growth of hepatic metastases in pre-immunized mice that had been depleted of T cells by administration of antibodies to CD4 and CD8 beginning at three weeks or nine weeks after splenic injection of mM1DTLB PDA cells was assessed by bioluminescence imaging. One group of mice was also treated with isotype control antibody.
(B and C) IF of sections containing macro-metastases from a liver of a pre-immunized mouse that had been depleted of T cells three weeks after splenic injection of mM1DTLB PDA cells. Anti-luciferase identifies cancer cells. Scale bar = 25µm.
Fig 3. PMID: 29773669



**Immunofluorescence Microscopy**
NIH3T3 cells transiently transfected with a luciferase gene. Luciferase-positive cells were detected using Rockland's polyclonal Anti-Luciferase antibody. Cells (25,000/well) were transiently transfected with a pLuc plasmid. After 2 days, the cells were fixed using 4% paraformaldehyde, permeabilized with 0.1% Triton® X-100, and blocked with 1% normal donkey serum. Cells were stained with 20µg/ml Anti-Luciferase in PBS for 2 hours followed by 1:200 dilution of donkey anti-goat IgG-FITC (green) for 1 hour. Cells were mounted using Vectashield with DAPI (blue) and visualized at 200X magnification with a fluorescent microscope.

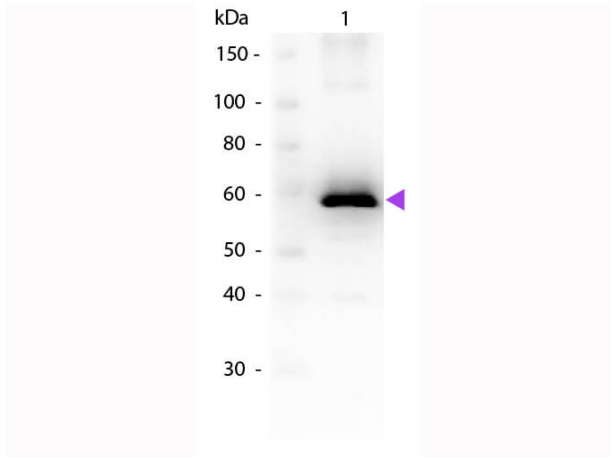



**Immunohistochemistry**
Luciferase immunostaining was analyzed in tibias from ovx ERE-luciferase mice taken 24 h after a 17-E2 injection. Positive luciferase staining was identified in hypertrophic chondrocytes (hc) (A), lining cells (lc) (B), osteoblasts (ob) (C), a subpopulation (10%) of osteocytes (ot) (upper arrow points at a positively stained osteocyte, whereas the lower depicts a negative osteocyte) (D), and megakaryocytes (E). Faint staining was found on the periosteal surface (p) (F). No background staining was seen when omitting the primary antibody (data not shown). The bar in the lower left corner represents 25 µm. pc, Proliferative chondrocyte.




**Western Blot**

Western Blot of Goat anti-Luciferase antibody. Lane 1 Marker: Opal Pre-stained ladder (p/n MB-210-0500). Lane 2: HEK293 lysate (p/n W09-000-365). Lane 3: HeLa Lysate (p/n W09-000-364). Lane 4: CHO/K1 Lysate (p/n W07-000-357). Lane 5: E-coli HCP Control (p/n 000-001-J08). Lane 6: J774A.1 Lysate (p/n W10-001-GX3). Lane 7: C2C12 Lysate (p/n W10-001-GL7). Lane 8: Mouse Embryonic Fibroblast Lysate (p/n W10-001-371). Lane 9: NIH/3T3 Lysate (p/n W10 -000-358). Lane 10: Mouse Liver Lysate (p/n W10-000-T020). Lane 11: PC-12 Lysate (p/n W12-001-GL9). Lane 12: Rat Brain Lysate (p/n W12-000-T077). Lane 13: Rat Testis Lysate (p/n W12-000-GZ3). Lane 14: Luciferase [Photinus pyralis (Firefly)]. Lane 15 Marker: Opal Pre-stained ladder (p/n MB-210-0500). Load: 10 µg of lysate or 50ng of purified protein per lane. Primary antibody: Luciferase antibody at 1:1,000 overnight at 4C. Secondary antibody: Peroxidase Goat secondary antibody (p/n 605-703-125) at 1:40,000 for 60 min at RT. Blocking Buffer: 1% Casein-TTBS (MB-082) for 30 min at RT. Predicted/Observed size: ~60 kDa for Luciferase.




**Western Blot**

Western Blot of Goat anti-Luciferase Antibody. Lane 1: Luciferase. Load: 50ng per lane. Primary antibody: Luciferase antibody at 1:1000 overnight at 4°C. Secondary antibody: Peroxidase goat secondary antibody (p/n 611-103 -122) at 1:40,000 for 30 min at RT. Block: (p/n MB-070) for 30 min at RT. Predicted/Observed size: ~60 kDa for Luciferase. Other band(s): None.

## References

- Pommier, A et al. Unresolved endoplasmic reticulum stress engenders immune-resistant, latent pancreatic cancer metastases. *Science (New York, N.Y.)* (2018)
- Scoles DR et al. ETS1 regulates the expression of ATXN2. *Hum Mol Genet.* (2012)
- Kenny, S. et al. Increased expression of the urokinase plasminogen activator system by Helicobacter pylori in gastric epithelial cells. *American Journal of Physiology. Gastrointestinal and Liver Physiology* (2008)
- S. H. Windahl, M. K. Lagerquist, N. Andersson, C. Jochems, A. Kallkopf, C. Håkansson, et al. Identification of Target Cells for the Genomic Effects of Estrogens in Bone. *Endocrinology* (2007)


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