

# PRODUCT INFORMATION

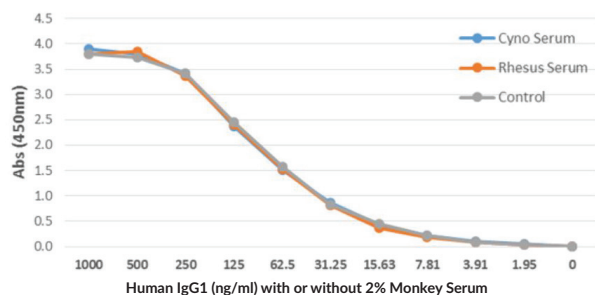


## Ig Light Chain (human) Rabbit Monoclonal Antibody - Biotinylated (Clone RM129) Item No. 32112

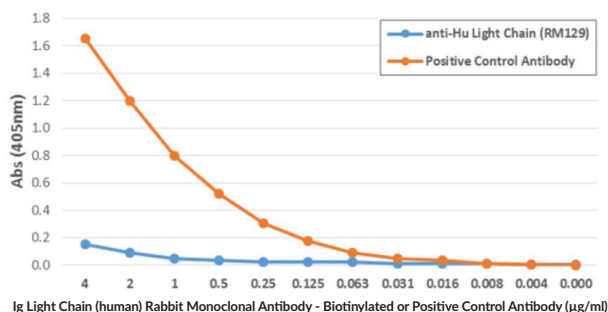
### Overview and Properties

**Contents:** This vial contains 50 µg of protein A-purified monoclonal antibody.  
**Synonym:** Immunoglobulin Light Chain  
**Immunogen:** Human IgG  
**Cross Reactivity:** (+) Human Igκ, Igλ; (-) Cynomolgus monkey, goat, mouse, rat, rhesus monkey IgG  
**Species Reactivity:** (+) Human  
**Form:** Liquid  
**Storage:** -20°C (as supplied)  
**Stability:** ≥1 year  
**Storage Buffer:** PBS, with 50% glycerol, 1% BSA, and 0.09% sodium azide  
**Concentration:** 1.0 mg/ml  
**Clone:** RM129  
**Host:** Rabbit  
**Isotype:** IgG  
**Applications:** ELISA, Immunocytochemistry (ICC), and Immunohistochemistry (IHC); the recommended starting concentration for ELISA is 0.02-0.25 µg/ml and 0.5-2 µg/ml for ICC and IHC. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

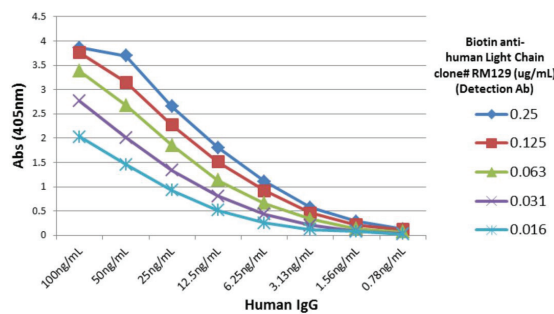
### Images



Detection of Human IgG1 in Monkey Serum. RM117 (capture) and Ig Light Chain (human) Rabbit Monoclonal Antibody - Biotinylated (detection) were used as a sandwich ELISA pair. HRP-conjugated streptavidin and TMB were used to yield the colorimetric reaction.

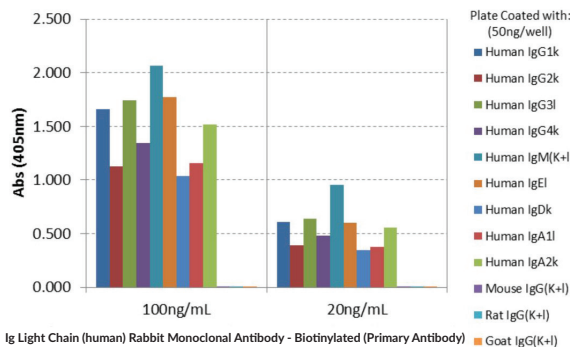


ELISA of Rhesus Monkey IgG. Ig Light Chain (human) Rabbit Monoclonal Antibody - Biotinylated does not react to monkey IgG. The plate was coated with rhesus monkey IgG. A serial dilution of Ig Light Chain (human) Rabbit Monoclonal Antibody - Biotinylated was used with a monkey IgG binding antibody (positive control) as the detection antibody.



(50 µl/well on a plate coated with 100 ng/well of capture γ Heavy Chain (human) Monoclonal Antibody)

A Titer Sandwich ELISA Using Ig Light Chain (human) Rabbit Monoclonal Antibody - Biotinylated as the Detection Antibody. The plate, coated with the capture γ Heavy Chain (human) Monoclonal Antibody, was loaded with different amounts of human IgG. A serial dilution of Ig Light Chain (human) Rabbit Monoclonal Antibody - Biotinylated was used as the detection antibody, followed by an alkaline phosphatase-conjugated streptavidin secondary antibody.



ELISA of Human Immunoglobulins (Igs). Ig Light Chain (human) Rabbit Monoclonal Antibody - Biotinylated reacts only to κ and λ light chain of all human Igs and not to mouse, rat, or goat IgG.

**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

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Immunoglobulins are members of the glycoprotein superfamily that play a central role in the adaptive immune response.<sup>1</sup> They are produced by B cells and later secreted by plasma cells as antibodies.<sup>2</sup> Immunoglobulins are composed of two heavy chains of approximately 50 kDa each and two light chains of approximately 25 kDa each.<sup>1</sup> The heavy chains are linked together by disulfide bonds to form an Fc region and also combine with the light chains to form the Fab region, which mediate receptor and antigen binding, respectively.<sup>3</sup> Mammalian immunoglobulins contain either Ig $\kappa$  or Ig $\lambda$  light chains, each of which are composed of a constant and variable domain.<sup>4</sup> The ratio of Ig $\kappa$  to Ig $\lambda$  light-chain containing antibodies varies between species, with ratios of 20:1, 2:1, and 1:20 in mice, humans, and cattle, respectively. Ig $\kappa$  and Ig $\lambda$  free light chains (FLCs) are produced during immunoglobulin synthesis, and accumulation of these FLCs is associated with various disorders, including light-chain deposition disease, multiple myeloma, rheumatoid arthritis, diabetic nephropathy, and systemic lupus erythematosus (SLE).<sup>2,5,6</sup> Cayman's Ig Light Chain (human) Rabbit Monoclonal Antibody – Biotinylated can be used for ELISA, immunocytochemistry (ICC), and immunohistochemistry (IHC) applications. The antibody recognizes both the Ig $\kappa$  and Ig $\lambda$  light chains from human samples.

## References

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2. Esparvarinha, M., Nickho, H., Mohammadi, H., *et al.* The role of free kappa and lambda light chains in the pathogenesis and treatment of inflammatory diseases. *Biomed. Pharmacother.* **91**, 632-644 (2017).
3. Vaillant A.A.J. and Ramphul K. Immunoglobulin. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing (2020). Available from: <https://www.ncbi.nlm.nih.gov/books/NBK513460/>
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