

# Product Information



## Guanylate Cyclase $\beta_1$ subunit (soluble) Polyclonal Antibody

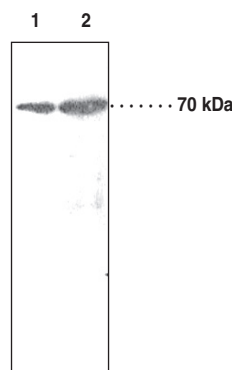
Item No. 160897 • Lot. No. XXXXX

- Contents:** This vial contains (100-500  $\mu$ g of peptide affinity-purified IgG, *lot specific*) in 500  $\mu$ l of TBS, pH 7.4, containing *lot specific* mg/ml BSA, 50% glycerol, and 0.02% sodium azide
- Host:** Rabbit
- Stability:**  $\geq$ 1 year at  $-20^\circ\text{C}$
- Antigen:** This antibody was raised against a synthetic peptide from the  $\beta_1$  subunit of rat soluble guanylate cyclase (amino acids 188-207; EDFYEDLDRFEENG TQDSR (Last D=E in human and bovine)) conjugated to KLH.<sup>1-3</sup>
- Cross-reactivity:** (+) Human, bovine, and rat soluble guanylate cyclase  $\beta_1$  subunit; (-)  $\alpha_1$  subunit
- Applications:** Western blot: recommended dilution *lot specific*  $\mu$ g/ml (1:*lot specific* - 1:*lot specific*) and immunohistochemistry: recommended dilution 1:1,000.\*
- Concentration:** Varies by lot, from 0.2-1.0 mg/ml (100-500  $\mu$ g/vial). Always 100 ml final working volume for western blotting.

Soluble guanylate cyclase is a heterodimeric enzyme, composed of  $\alpha$  and  $\beta$  subunits, that catalyzes the synthesis of cGMP from GTP. The enzyme is activated by the binding of nitric oxide to the heme group of the enzyme.<sup>5</sup> The cloned  $\beta_1$  subunit of guanylate cyclase from human, bovine, and rat sources contains 619 amino acids and has a molecular mass of approximately 70,000.<sup>1-3</sup> The  $\alpha_1$  subunit contains 690-717 amino acids and has a molecular mass of 77-82 kDa.<sup>2,6,7</sup> This antibody will specifically recognize only the  $\beta_1$  subunit of soluble guanylate cyclase.

### References

1. Nakane, M., Saheki, S., Kuno, T., *et al.* Molecular cloning of a cDNA coding for 70 kilodalton subunit of soluble guanylate cyclase from rat lung. *Biochem. Biophys. Res. Commun.* **157**, 1139-1147 (1988).
2. Giuli, G., Scholl, U., Bulle, F., *et al.* Molecular cloning of the cDNAs coding for the two subunits of soluble guanylyl cyclase from human brain. *FEBS Lett.* **304**, 83-88 (1992).
3. Koesling, D., Herz, J., Gausepohl, H., *et al.* The primary structure of the 70 kDa subunit of bovine soluble guanylate cyclase. *FEBS Lett.* **239**, 29-34 (1988).
4. Gutiérrez-Mecinas, M., Crespo, C., Blasco-Ibáñez, M., *et al.* Soluble guanylyl cyclase appears in a specific subset of periglomerular cells in the olfactory bulb. *Eur. J. Neurosci.* **21**, 1443-1448 (2005).
5. Stone, J.R. and Marletta, M.A. Soluble guanylate cyclase from bovine lung: Activation with nitric oxide and carbon monoxide and spectral characterization of the ferrous and ferric states. *Biochemistry* **33**, 5636-5640 (1994).
6. Nakane, M., Arai, K., Saheki, S., *et al.* Molecular cloning and expression of cDNAs coding for soluble guanylate cyclase from rat lung. *J. Biol. Chem.* **265**, 16841-16845 (1990).
7. Koesling, D., Harteneck, C., Humbert, P., *et al.* The primary structure of the larger subunit of soluble guanylyl cyclase from bovine lung. Homology between the two subunits of the enzyme. *FEBS Lett.* **266**, 128-132 (1990).



Lane 1: Bovine lung supernatant (100,000 x g) (12.5  $\mu$ g)  
Lane 2: Bovine lung supernatant (100,000 x g) (25  $\mu$ g)

### Related Products

ODQ - Item No. 81410 • YC 1 - Item No. 81560 • Guanylate Cyclase (soluble) Polyclonal Antiserum - Item No. 160890 • Guanylate Cyclase  $\alpha$  subunit (soluble) Blocking Peptide - Item No. 360895 • Guanylate Cyclase  $\beta$  subunit (soluble) Blocking Peptide - Item No. 360897

**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY. NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

#### MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

Cayman Chemical Company makes no warranty or guarantee of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman warrants only to the original customer that the material will meet our specifications at the time of delivery.

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have any obligation or liability, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees.

Buyer's exclusive remedy and Cayman's sole liability hereunder shall be limited to a refund of the purchase price, or at Cayman's option, the replacement, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

For further details, please refer to our Warranty and Limitation of Remedy located on our website and in our catalog.

Copyright Cayman Chemical Company, 10/06/2011

### Cayman Chemical

#### Mailing address

1180 E. Ellsworth Road  
Ann Arbor, MI  
48108 USA

#### Phone

(800) 364-9897  
(734) 971-3335

#### Fax

(734) 971-3640

#### E-Mail

custserv@caymanchem.com

#### Web

www.caymanchem.com