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PRODUCT INFORMATION



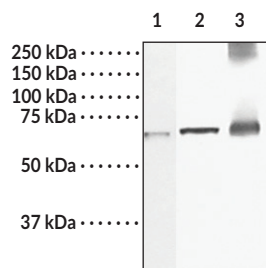
Guanylate Cyclase β 1 subunit (soluble) Polyclonal Antibody

Item No. 160897

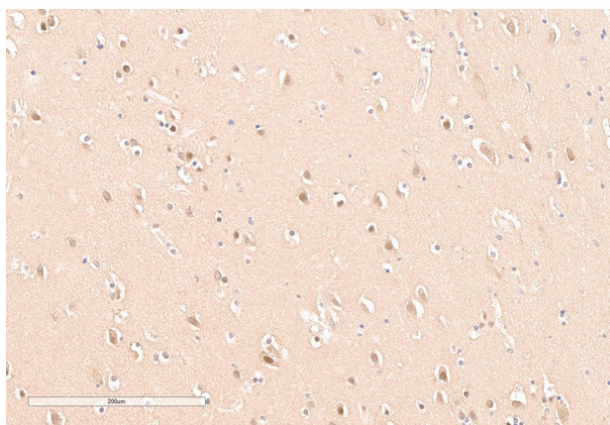
Overview and Properties

Contents:	This vial contains 500 μ l of peptide affinity-purified polyclonal antibody.
Synonyms:	sGC β 1 subunit, GCS-beta-1, Gucy1b1
Immunogen:	Synthetic peptide from an internal region of rat sGC β 1 subunit
Cross Reactivity:	(-) sGC α 1 subunit
Species Reactivity:	(+) Human, bovine, rat; other species not tested
Uniprot No.:	P20595
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	\geq 3 years
Storage Buffer:	PBS, pH 7.2, with 50% glycerol and 0.02% sodium azide
Host:	Rabbit
Applications:	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution for IHC and WB is 1:200. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



Lane 1: Bovine lung membrane (75 μ g)
Lane 2: Mouse brain supernatant (25 μ g)
Lane 3: Bovine lung supernatant (25 μ g)



Immunohistochemistry analysis of formalin-fixed, paraffin-embedded (FFPE) human brain tissue after heat-induced antigen retrieval in pH 6.0 citrate buffer. After incubation with Guanylate Cyclase β 1 Subunit (soluble) Polyclonal Antibody (Item No. 160897) at a 1:200 dilution, slides were incubated with biotinylated secondary antibody, followed by alkaline phosphatase-streptavidin and chromogen (DAB).

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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PRODUCT INFORMATION



Description

Soluble guanylate cyclase (sGC) is a heterodimeric hemoprotein and nitric oxide (NO) sensor composed of two subunits, $\alpha 1$ and $\beta 1$.^{1,2} The approximately 70 kDa sGC $\beta 1$ subunit is encoded by *GUCY1B3* in humans, ubiquitously expressed, and localized to the cytosol.³ The sGC histidine residue at position 105 is ligated to a ferrous heme that selectively binds NO to activate the C-terminal guanylate cyclase activity of the sGC heterodimer, catalyzing the synthesis of cGMP.^{1,4} Knockdown of *Gucy1B3* or expression of a heme-deficient sGC $\beta 1$ subunit inhibits NO-induced reductions in blood pressure and platelet activation in mice, indicating a heme-dependent role for the sGC $\beta 1$ subunit in blood pressure regulation.⁵ Cayman's Guanylate Cyclase $\beta 1$ subunit (soluble) Polyclonal Antibody can be used for immunohistochemistry (IHC) and Western blot (WB) applications. The antibody recognizes the sGC $\beta 1$ subunit from human, bovine, and rat samples.

References

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2. Montfort, W.R., Wales, J.A., and Weichsel, A. Structure and activation of soluble guanylyl cyclase, the nitric oxide sensor. *Antioxid. Redox Signal.* **26**(3), 107-121 (2017).
3. Derbyshire, E.R. and Marletta, M.A. Structure and regulation of soluble guanylate cyclase. *Annu. Rev. Biochem.* **81**, 533-559 (2012).
4. Wobst, J., Rumpf, P.M., Dang, T.A., *et al.* Molecular variants of soluble guanylyl cyclase affecting cardiovascular risk. *Circ. J.* **79**(3), 463-469 (2015).
5. Thoonen, R., Cauwels, A., Decaluwe, K., *et al.* Cardiovascular and pharmacological implications of haem-deficient NO-unresponsive soluble guanylate cyclase knock-in mice. *Nat. Commun.* **6**, 8482 (2015).

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