

Product Information



Guanylate Cyclase α subunit (soluble) Polyclonal Antibody

Item No. 160895 • Lot No. XXXX

Contents:	This vial contains (100-500 μ g of affinity-purified IgG, <i>lot specific</i>) in 500 μ l of TBS, pH 7.4, containing <i>lot specific</i> glycerol, <i>lot specific</i> mg/ml BSA, and <i>lot specific</i> sodium azide.
Host:	Rabbit
Antigen:	The soluble guanylate cyclase α subunit polyclonal antibody was raised against a synthetic peptide against the α_1 subunit of human soluble guanylate cyclase, amino acids 418-436 (EQARAQDGLKKRLGKLGKAT). This sequence is identical among human, bovine, and mouse species.
Cross-reactivity:	(+) Mouse, human, and bovine guanylate cyclase α subunit; other species not yet tested
Stability:	≥ 1 year at -20°C
Application:	Western blot: <i>lot specific:lot specific</i> dilution (<i>lot specific</i> μ g/ml); IHC has not been attempted and optimal dilutions should be determined empirically.
Concentration:	Varies by lot, from 0.2-1.0 mg/ml (100-500 μ g/vial). Always 100 ml final working volume for western blotting.

Soluble guanylate cyclase is a heterodimeric enzyme, composed of α and β subunits, that synthesizes cGMP from GTP. The enzyme is activated by the binding of nitric oxide or carbon monoxide to the heme group of the enzyme.¹ Chronic hypoxia upregulates soluble guanylate expression in rat lung.² The α_1 subunit contains 690-717 amino acids and has a molecular mass of 77-82 kDa.³⁻⁵ The cloned β_1 subunit of guanylate cyclase from human, bovine, and rat sources contains 619 amino acids and has a molecular mass of approximately 70,000.^{4,6,7}

References

1. 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).
2. Li, D., Zhou, N., and Johns, R.A. Soluble guanylate cyclase gene expression and localization in rat lung after exposure to hypoxia. *Am. J. Physiol.* **277**, 841-847 (1999).
3. Giuili, 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).
4. 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).
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6. 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).
7. 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).

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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.

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