

GCS- β -1 (541-619): sc-4503 WB

BACKGROUND

Guanylate cyclases belong to the adenylyl cyclase class-4/guanylyl cyclase family. There are two forms of guanylate cyclase, a soluble form (GCS or sGC), which act as receptors for nitric oxide and a membrane-bound receptor form (GC), which are peptide hormone receptors. GCS is a cGMP-synthesizing enzyme, which is the major receptor for the neurotransmitter nitric oxide (NO). It plays a crucial role in smooth muscle contractility, platelet reactivity and neurotransmission. GCS is a heme containing heterodimer, consisting of one 72 kDa α subunit and one 65 kDa β subunit. The heme moiety mediates NO activation, and this heme group also binds carbon monoxide, which weakly stimulates the enzyme. Both NO and CO stimulation are enhanced by the allosteric activator 3-(5'-hydroxymethyl-2'-furyl)-benzyl-indazole, YC-1. YC-1 can also stimulate GCS in a NO-independent manner. Both α and β subunits are required for cGMP generation and at least two isoforms exist for each subunit. Heterodimers consisting of α -1/ β -1 and α -2/ β -1 have been identified, and both display similar enzymatic activity. The distribution of the β -2 subunit seems to be much more restricted than the β -1 subunit, with predominant expression in kidney and liver.

REFERENCES

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SOURCE

GCS- β -1 (541-619) is expressed in *E. coli* as a 36 kDa tagged fusion protein corresponding to amino acids 541-619 of GCS- β -1 of human origin.

PRODUCT

GCS- β -1 (541-619) is purified from bacterial lysates (>98%) by glutathione agarose affinity chromatography; supplied as 10 μ g in 0.1 ml SDS-PAGE loading buffer.

APPLICATIONS

GCS- β -1 (541-619) is suitable as a Western blotting control for sc-20955, sc-21309 and sc-21310.

STORAGE

Store at -20° C; stable for one year from the date of shipment.

RESEARCH USE

For research use only, not for use in diagnostic procedures