

CBG (K-19): sc-51263

BACKGROUND

CBG (cytosolic β -glucosidase) is a monomeric enzyme involved in the absorption and metabolism of flavonoid glucosides. CBG is found predominately in the liver, but is also located in tissues such as spleen, small intestine and kidney. Through its catalytic activity, CBG is able to hydrolyze a variety of glycosides including phytoestrogens, cyanogens and flavonols. Although its catalytic activity extends to many dietary flavonoids, CBG has increased specificity for hydrophobic aglycones such as β -D-glucoside and β -D-galactoside. Hydrolysis is inhibited by sodium taurocholate and glucosyl-sphingosine, both of which regulate CBG enzymatic activity. Deficiencies in CBG have been implicated in Gaucher's disease, a lysosomal storage disease that causes a build up of fatty material in the spleen, liver, lung and kidneys.

REFERENCES

- LaMarco, K.L. and Glew, R.H. 1985. Galactosylsphingosine inhibition of the broad-specificity cytosolic β -glucosidase of human liver. *Arch. Biochem. Biophys.* 236: 669-676.
- Hays, W.S., Jenison, S.A., Yamada, T., Pastuszyn, A. and Glew, R.H. 1996. Primary structure of the cytosolic β -glucosidase of guinea pig liver. *Biochem. J.* 319 (Pt 3): 829-837.
- Lambert, N., Kroon, P.A., Faulds, C.B., Plumb, G.W., McLauchlan, W.R., Day, A.J. and Williamson, G. 2000. Purification of cytosolic β -glucosidase from pig liver and its reactivity towards flavonoid glycosides. *Biochim. Biophys. Acta* 1435: 110-116.
- Berrin, J.G., McLauchlan, W.R., Needs, P., Williamson, G., Puigserver, A., Kroon, P.A. and Juge, N. 2002. Functional expression of human liver cytosolic β -glucosidase in *Pichia pastoris*. Insights into its role in the metabolism of dietary glucosides. *Eur. J. Biochem.* 269: 249-258.
- Berrin, J.G., Czjzek, M., Kroon, P.A., McLauchlan, W.R., Puigserver, A., Williamson, G. and Juge, N. 2003. Substrate (aglycone) specificity of human cytosolic β -glucosidase. *Biochem. J.* 373: 41-48.
- de Graaf, M., Pinedo, H.M., Quadir, R., Haisma, H.J. and Boven, E. 2003. Cytosolic β -glucosidases for activation of glycoside prodrugs of daunorubicin. *Biochem. Pharmacol.* 65: 1875-1881.
- Beutler, E., Beutler, L. and West, C. 2004. Mutations in the gene encoding cytosolic β -glucosidase in Gaucher disease. *J. Lab. Clin. Med.* 144: 65-68.
- Fleury, D., Domaingue, P., Gillard, C., Touitou, R. and Mollat, P. 2007. Expression, purification, characterization and crystallization of a recombinant human cytosolic β -glucosidase produced in insect cells. *Protein Expr. Purif.* 52: 96-103.

CHROMOSOMAL LOCATION

Genetic locus: GBA3 (human) mapping to 4p15.31.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

SOURCE

CBG (K-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CBG of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-51263 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CBG (K-19) is recommended for detection of CBG isoform 1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

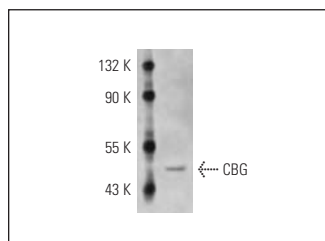
Suitable for use as control antibody for CBG siRNA (h): sc-105182, CBG shRNA Plasmid (h): sc-105182-SH and CBG shRNA (h) Lentiviral Particles: sc-105182-V.

Molecular Weight of CBG: 53 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



CBG (K-19): sc-51263. Western blot analysis of CBG expression in ECV304 whole cell lysate.

RESEARCH USE

For research use only, not for use in diagnostic procedures.