



CaMKII γ (h): 293T Lysate: sc-170070

BACKGROUND

Ca²⁺/calmodulin-dependent protein kinase II (CaMKII) is a Ca²⁺-signaling intermediate that contains α , β , γ and δ subunits. Calcium oscillations, autophosphorylation and subunit composition of CaMKII influences the level of regulation of cellular events, including cell cycle and transcription. Several CaMKII γ protein isoforms are present in biliary epithelium.

REFERENCES

1. Nghiem, P., Saati, S.M., Martens, C.L., Gardner, P. and Schulman H. 1993. Cloning and analysis of two new isoforms of multifunctional Ca²⁺/calmodulin-dependent protein kinase. Expression in multiple human tissues. *J. Biol. Chem.* 268: 5471-5479.
2. Kwiatkowski, A.P. and McGill, J.M. 2000. Alternative splice variant of γ calmodulin-dependent protein kinase II alters activation by calmodulin. *Arch. Biochem. Biophys.* 378: 377-383.
3. Bui, J.D., Calbo, S., Hayden-Martinez, K., Kane, L.P., Gardner, P. and Hedrick, S.M. 2000. A role for CaMKII in T cell memory. *Cell* 100: 457-467.
4. Lorenz, J.M., Riddervold, M.H., Beckett, E.A., Baker, S.A. and Perrino, B.A. 2002. Differential autophosphorylation of CaMKII from phasic and tonic smooth muscle tissues. *Am. J. Physiol., Cell Physiol.* 283: 1399-1413.
5. Gloyn, A.L., Desai, M., Clark, A., Levy, J.C., Holman, R.R., Frayling, T.M., Hattersley, A.T. and Ashcroft, S.J. 2002. Human calcium/calmodulin-dependent protein kinase II γ gene (CAMK2G): cloning, genomic structure and detection of variants in subjects with type II diabetes. *Diabetologia* 45: 580-583.
6. Gaertner, T.R., Kolodziej, S.J., Wang, D., Kobayashi, R., Koomen, J.M., Stoops, J.K. and Waxham, M.N. 2004. Comparative analyses of the three-dimensional structures and enzymatic properties of α , β , γ and δ isoforms of Ca²⁺-calmodulin-dependent protein kinase II. *J. Biol. Chem.* 279: 12484-12494.
7. LocusLink Report (LocusID: 818). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: CAMK2G (human) mapping to 10q22.2.

PRODUCT

CaMKII (h): 293T Lysate represents a lysate of human CaMKII transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

CaMKII (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive CaMKII antibodies. Recommended use: 10-20 μ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.