SANTA CRUZ BIOTECHNOLOGY, INC.

# hCAP-G (h): 293 Lysate: sc-110672

## BACKGROUND

hCAP-G (condensin complex subunit 3, condensin subunit CAP-G) is a 1,015 amino acid protein that is encoded by the human gene NCAPG. hCAP-G belongs to the CND3 (condensin subunit 3) family and contains ten HEAT repeats. hCAP-G is a regulatory subunit of the condensin complex, a complex required for conversion of interphase chromatin into mitotic-like condense chromosomes. The condensin complex probably introduces positive supercoils into relaxed DNA in the presence of type I topoisomerases and converts nicked DNA into positive knotted forms in the presence of type II topoisomerases. In interphase cells, the majority of the condensin complex is found in the cytoplasm, while a minority of the complex is associated with chromatin. A subpopulation of the complex, however, remains associated with chromosome foci in interphase cells. During mitosis, most of the condensin complex is associated with the chromatin. At the onset of prophase, the regulatory subunits of the complex are phosphorylated by Cdc2, leading to association of condensin with chromosome arms and to chromosome condensation. Dissociation from chromosomes is observed in late telophase.

## REFERENCES


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3. Savvidou, E., Cobbe, N., Steffensen, S., Cotterill, S. and Heck, M.M. 2005. *Drosophila* CAP-D2 is required for condensin complex stability and resolution of sister chromatids. J. Cell Sci. 118: 2529-2543.
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7. Yu, L.R., Zhu, Z., Chan, K.C., Issaq, H.J., Dimitrov, D.S. and Veenstra, T.D. 2007. Improved titanium dioxide enrichment of phosphopeptides from HeLa cells and high confident phosphopeptide identification by cross-validation of MS/MS and MS/MS/MS spectra. J. Proteome Res. 6: 4150-4162.


## 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.

## CHROMOSOMAL LOCATION

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

## PRODUCT

hCAP-G (h): 293 Lysate represents a lysate of human hCAP-G transfected 293 cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

## APPLICATIONS

hCAP-G (h): 293 Lysate is suitable as a Western Blotting positive control for human reactive hCAP-G antibodies. Recommended use: 10-20 µl per lane.

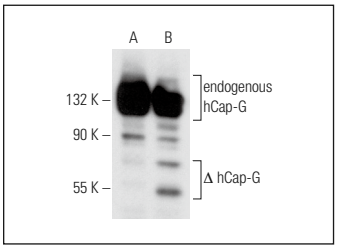
Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

hCAP-G (YY-2): sc-101014 is recommended as a positive control antibody for Western Blot analysis of enhanced human hCAP-G expression in hCAP-G transfected 293 cells (starting dilution 1:100, dilution range 1:100-1:1,000).

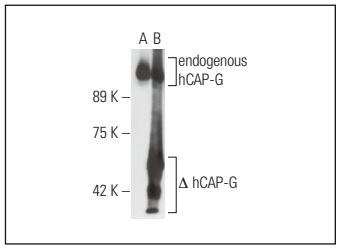
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

## DATA




hCAP-G (YY-2): sc-101014. Western blot analysis of hCAP-G expression in non-transfected: sc-110760 (**A**) and truncated human hCAP-G transfected: sc-110672 (**B**) 293 whole cell lysates.




hCAP-G (YY-2): sc-101014. Western blot analysis of hCAP-G expression in non-transfected: sc-110760 (**A**) and truncated human hCAP-G transfected: sc-110672 (**B**) 293 whole cell lysates.

## 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.