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### SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

[mail@szabo-scandic.com](mailto:mail@szabo-scandic.com)

[www.szabo-scandic.com](http://www.szabo-scandic.com)

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

# CTR1 (h2): 293T Lysate: sc-171922

## BACKGROUND

The activity of a diverse subset of enzymes relies on the essential nutrient copper. Copper uptake requires tight regulation to ensure that sufficient copper is present in the cell to drive vital cellular processes, while avoiding the accumulation of copper to toxic levels. In *Saccharomyces cerevisiae*, copper regulation involves several proteins. Fre1, a surface reductase, reduces and mobilizes copper outside the cell, while the CTR1 and CTR3 proteins function as copper transport proteins within the plasma membrane. Regulation of these proteins occurs at the transcriptional level. Under copper-deficient conditions, Mac1 binds to copper response elements (CuREs) within promoters, which contain the consensus sequence GCTC, to activate the transcription of CTR1, CTR3, and Fre1. Mac1 also mediates CTR1 degradation. In human, CTR1 also mediates the uptake of cisplatin, a chemotherapeutic drug, and may modulate the sensitivity and toxicity of this drug.

## REFERENCES

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## CHROMOSOMAL LOCATION

Genetic locus: SLC31A1 (human) mapping to 9q32.

## PRODUCT

CTR1 (h2): 293T Lysate represents a lysate of human CTR1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

## RESEARCH USE

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

## APPLICATIONS

CTR1 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive CTR1 antibodies. Recommended use: 10-20 µl 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.