SANTA CRUZ BIOTECHNOLOGY, INC.

# Gln3 (yN-20): sc-19895

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

The target of rapamycin (Tor) proteins sense nutrients and control transcription and translation relevant to cell growth. One of the most recent functions assigned to the TOR signaling pathway in yeast is the coordination of the transcription of genes involved in nutrient utilization. Transcription of Ena1, a gene encoding a lithium and sodium ion transporter essential for salt tolerance in yeast, is controlled by the TOR signaling pathway. Ena1 expression is strongly induced under TOR-inactivating conditions and the absence of the TOR-controlled GATA transcription factors Gln3 and Gat1 (Nil1) results in reduced basal and salt-induced expression of Ena1. Nutrient-sensitive transcription factors Gln3 and GAT1 control transcriptional responses that mediate translation and the Tor proteins preferentially use Gln3 or Nil1 to down-regulate translation in response to low-quality nitrogen or carbon, respectively. Besides integrating control of transcription and translation, these transcription factors constitute branches downstream of the multichannel TOR proteins that can be selectively modulated in response to distinct (carbon- and nitrogen-based) nutrient signals from the environment.

## REFERENCES


1. Hofman-Bang. J. 1999. Nitrogen catabolite repression in *Saccharomyces cerevisiae*. Mol. Biotechnol. 12: 35-73.
2. Shamji, A.F., Kuruvilla, F.G., and Schreiber, S.L. 2000. Partitioning the transcriptional program induced by rapamycin among the effectors of the TOR proteins. Curr. Biol. 10: 1574-1581.
3. Cunningham, T.S., Rai, R., and Cooper, T.G. 2000. The level of DAL80 expression down-regulates GATA factor-mediated transcription in *Saccharomyces cerevisiae*. J. Bacteriol. 182: 6584-6591.
4. Crespo, J.L., Daicho, K., Ushimaru, T., and Hall, M.N. 2001. The GATA transcription factors GLN3 and GAT1 link TOR to salt stress in *Saccharomyces cerevisiae*. J. Biol. Chem. 276: 34441-34444.
5. Kuruvilla, F.G., Shamji, A.F., and Schreiber, S.L. 2001. Carbon- and nitrogen-quality signaling to translation are mediated by distinct GATA-type transcription factors. Proc. Natl. Acad. Sci. USA 98: 7283-7288.


## SOURCE

Gln3 (yN-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Gln3 of yeast origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-19895 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## RESEARCH USE

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

## APPLICATIONS

Gln3 (yN-20) is recommended for detection of Gln3 of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

## 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.

## PROTOCOLS

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