

## Ordering Information

Web [www.encorbio.com](http://www.encorbio.com)  
Email [admin@encorbio.com](mailto:admin@encorbio.com)  
Phone 352-372-7022  
Fax 352-372-7066

HGNC Name: NA

UniProt: G2WBY3, G2WC30

RRID: AB\_2572337

Immunogen: Yeast nuclear preparation

Format: Concentrated hybridoma tissue culture media plus 5mM Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>

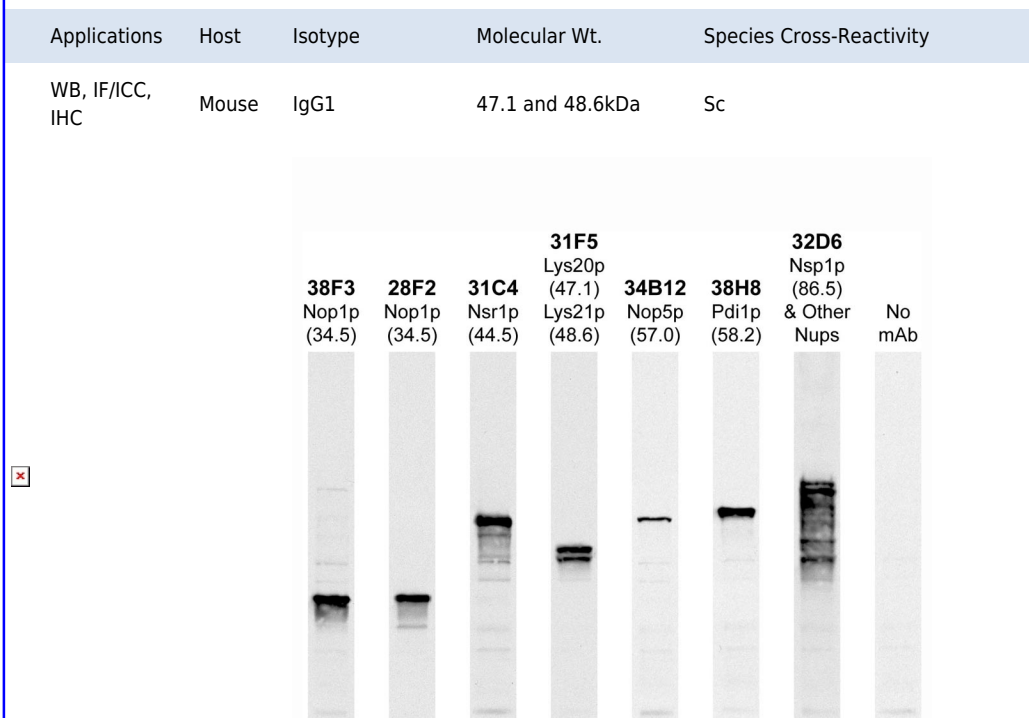
Storage: Store at 4°C for short term, for longer term at -20°C. Avoid freeze/thaw cycles.

### Recommended dilutions:

WB: 1:10,000-1:50,000. ICC/IF and IHC:  
1:1,000-1:10,000.

## References:

- Chen S, Dove JE, Brockenbrough JS, and Aris JP. Homocitrate synthase is located in the nucleus in the yeast *Saccharomyces cerevisiae*. *J. Biol. Chem.* 272:10839-46.



Western blots of whole yeast protein extracts with a collection of our antibodies. The blot for MCA-31F5 is in the indicated lane, and the number indicates the SDS-PAGE molecular weight in kiloDaltons.

## Background:

Lys20p and Lys21p are two isozymes of the Baker's yeast *Saccharomyces cerevisiae* homocitrate synthase. Homocitrate synthases catalyze the reaction of acetyl-coenzyme A, 2-oxoglutarate and water to produce 2-hydroxybutane-1,2,4-tricarboxylate + coenzyme A. Their systematic names of the isozymes at the yeast genome organization are [YDL182W](#) and [YDL131W](#) respectively. The Lys20p protein is of molecular size 47.1kDa and the Lys21p protein is 48.6kDa. They are produced by two distinct genes and the two molecules are ~90% identical at the amino acid level so it is not surprising that an antibody would recognize both molecules.

The MCA-31F5 antibody was made by injecting a yeast nucleolus enriched fraction into mice to produce hybridoma lines (1). MCA-31F5 was selected as one of many hybridomas which bound yeast nuclei by immunofluorescence. MCA-31F5 detected a closely spaced doublet on immunoblots of yeast extracts, and screening of a yeast  $\lambda$ gt11 expression library identified a reactive clone which encoded Lys20p. Subsequent studies showed that the MCA-31F5 showed equal reactivity with the closely related Lys21p. Both proteins are localized to the nucleoplasm of the nucleus.

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## Abbreviation Key:

mAb—Monoclonal Antibody pAb—Polyclonal Antibody WB—Western Blot IF—Immunofluorescence ICC—Immunocytochemistry  
IHC—Immunohistochemistry E—ELISA Hu—Human Mo—Monkey Do—Dog Rt—Rat Ms—Mouse Co—Cow Pi—Pig Ho—Horse Ch—Chicken  
Dr—*D. rerio* Dm—*D. melanogaster* Sm—*S. mutans* Ce—*C. elegans* Sc—*S. cerevisiae* Sa—*S. aureus* Ec—*E. coli*.

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