ATCC

Product Sheet

# *Saccharomyces cerevisiae* (ATCC® 204541™)

**Please read this FIRST**

Biosafety Level
**1**

**Intended Use**

This product is intended for research use only. It is not intended for any animal or human therapeutic or diagnostic use.

**Citation of Strain**

If use of this culture results in a scientific publication, it should be cited in that manuscript in the following manner: *Saccharomyces cerevisiae* (ATCC® 204541™)

American Type Culture Collection
PO Box 1549
Manassas, VA 20108 USA
www.atcc.org

800.638.6597 or 703.365.2700
Fax: 703.365.2750
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*Or contact your local distributor*

## Description

**Strain Designation:** B-7600
**Deposited Name:** *Saccharomyces cerevisiae* Hansen, teleomorph
**Genotype:** MATalpha ura3-52 leu2-3 leu2-112 trp1-289 his3-delta1 met2 cyh(r) [cir0]

## Propagation

ATCC® Medium 1069: YPAD medium

**Growth Conditions**
**Temperature:** 25°C
**Atmosphere:** Typical aerobic
**Protocol:** Protocol for the use of 2-micron tester strains:The method relies on a set of 16 [cir0] tester strains, each containing plasmid DNA integrated at or near the centromere of a different chromosome. The plasmid DNA derived from YEp24 contains the URA3+ gene, the 2-micron inverted repeat sequence, pBR322 sequences, and different yeast segments corresponding to centromeric regions of each of the 16 chromosomes. The 2-micron plasmid DNA remains stably integrated in [cir0] strains since the plasmid DNA lacks the 2-micron FLP gene required for site-specific recombination and the [cir0] cells contain no resident 2-micron plasmid to provide FLP function. Specific loss of integrated 2-micron plasmid DNA and the chromosome into which integration occurred is induced in a [cir0]/[cir+] diploid since FLP function provided by the 2-micron circles of the [cir+] parent catalyzes a site-specific recombination event. This results in the loss of the integrant plus the entire chromosome containing the integrant if the integration occurred at the centromere. The recessive mutation, in a [cir+] strain, can be assigned to its chromosome by crossing to each of the [cir0] tester strains and isolating the [cir0]/[cir+] diploids on selective medium. A subclone of each diploid is resuspended and plated on nonselective medium. Several hundred colonies of each diploid are replica-plated onto a medium that selects for the expression of the unmapped mutation. Each of the [cir0]/[cir+] diploids will lose the 2-micron plasmid DNA as well as the chromosome which contains the integration at a high frequency. The recessive mutation will be manifested only in the diploid containing the [cir0] tester strain in which the integrant is on the same chromosome as the mutation.

**Recommended Procedure**
**Frozen ampoules** packed in dry ice should either be thawed immediately or stored in liquid nitrogen. If liquid nitrogen storage facilities are not available, frozen ampoules may be stored at or below -70°C for approximately one week. **Do not under any circumstance store frozen ampoules at refrigerator freezer temperatures (generally -20°C)**. Storage of frozen material at this temperature will result in the death of the culture.
1. To thaw a frozen ampoule, place in a 25°C to 30°C water bath, until just thawed (approximately 5 minutes). Immerse the ampoule just sufficient to cover the frozen material. Do not agitate the ampoule.
2. Immediately after thawing, wipe down ampoule with 70% ethanol and aseptically transfer at least 50 µl (or 2-3 agar cubes) of the content onto a plate or broth with medium recommended.
3. Incubate the inoculum/strain at the temperature and conditions recommended.
4. Inspect for growth of the inoculum/strain regularly. The sign of viability is noticeable typically after 1-2 days of incubation. However, the time necessary for significant growth will vary from strain to strain.

## Notes

Every effort is made to provide strains having the exact requirements as listed in the catalogue. However, yeast strains, like every other biological system, are constantly undergoing change, so that the sample you receive may not have exactly the same markers as determined when the strains were stored: reversion of certain mutations may have occurred, new mutations or suppressors which impart selective advantage to the strain may have been acquired and there may be ploidy changes. We urge checking the strains before extensive use.

## Isolation

Before using any of the strains for mapping an unknown gene, check the strain with a known marker located on the specific chromosome for which the strain is being used. There have been reports of two incorrectly marked strains obtained from YGSC and from the Sherman-Wakem lab.
Each of the 2-micron strains contains derivatives of the integrated plasmid YEp24 and is URA3+. It has become apparent that several of the 2-micron strains tend to lose the plasmid spontaneously at a rather high rate. To prolong stability of the integrated plasmid, revive the strains from paper replicas on Ura- medium rather than on rich YEPD medium. A study by Y. Kaneko of the Institute for Fermentation in Osaka, Japan, has established approximate percentages of loss of the Ura+ phenotype in the 2-micron strains when replica-

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plated from YEPD medium to Ura-. The results indicate that strains B-7588, B-7589, B-7175, B-7595, B-7596, B-7599, B-7602, B-7604, B-7608, B-7610, B-7612, and B-7614 become auxotrophic for uracil at a rate between 10 and 39%; the percentage loss of the Ura+ phenotype for all other strains is between 0.22 and 0.49%. For more precise numbers, please contact YGSC.

## References

References and other information relating to this product are available online at www.atcc.org.

## Biosafety Level: 1

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the current publication of the *Biosafety in Microbiological and Biomedical Laboratories* from the U.S. Department of Health and Human Services Centers for Disease Control and Prevention and National Institutes for Health.

## ATCC Warranty

The viability of ATCC® products is warranted for 30 days from the date of shipment, and is valid only if the product is stored and cultured according to the information included on this product information sheet. ATCC lists the media formulation that has been found to be effective for this strain. While other, unspecified media may also produce satisfactory results, a change in media or the absence of an additive from the ATCC recommended media may affect recovery, growth and/or function of this strain. If an alternative medium formulation is used, the ATCC warranty for viability is no longer valid.

## Disclaimers

This product is intended for laboratory research purposes only. It is not intended for use in humans.

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Please see the enclosed Material Transfer Agreement (MTA) for further details regarding the use of this product. The MTA is also available on our Web site at www.atcc.org

Additional information on this culture is available on the ATCC web site at www.atcc.org.

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