

Yeast Extract-Peptone-Dextrose (YPD) Agar

Yeast Extract-Peptone-Dextrose (YPD) Broth

Intended Use

YPD Agar and YPD Broth are used for maintaining and propagating yeasts in molecular microbiology procedures.

Summary and Explanation

General methods in yeast genetics specify using yeast extract-peptone-dextrose (YPD) medium for cultivating *Saccharomyces cerevisiae* and other yeasts.¹ Yeasts grow well on a minimal medium containing only dextrose and salts. The addition of protein and yeast cell extract hydrolysates allows faster growth so that during exponential or log-phase growth, the cells divide every 90 minutes.¹

Formulae

Difco™ YPD Agar

| Approximate Formula* Per Liter | |
|--------------------------------|--------|
| Yeast Extract | 10.0 g |
| Peptone | 20.0 g |
| Dextrose | 20.0 g |
| Agar | 15.0 g |

Difco™ YPD Broth

Consists of the same ingredients without the agar.

*Adjusted and/or supplemented as required to meet performance criteria.

User Quality Control

Identity Specifications

Difco™ YPD Agar

| | |
|------------------------------------|---|
| Dehydrated Appearance: | Beige, free-flowing, homogeneous. |
| Solution: | 6.5% solution, soluble in purified water upon boiling. Solution is light to medium amber, very slightly to slightly opalescent. |
| Prepared Appearance: | Light to medium amber, slightly opalescent. |
| Reaction of 6.5% Solution at 25°C: | pH 6.5 ± 0.2 |

Difco™ YPD Broth

| | |
|------------------------------------|---|
| Dehydrated Appearance: | Beige, free-flowing, homogeneous. |
| Solution: | 5.0% solution, soluble in purified water. Solution is light to medium amber, clear to very slightly opalescent. |
| Prepared Appearance: | Light to medium amber, clear to very slightly opalescent. |
| Reaction of 5.0% Solution at 25°C: | pH 6.5 ± 0.2 |

Cultural Response

Difco™ YPD Agar or YPD Broth

Prepare the medium per label directions. Inoculate and incubate at 25 ± 2°C for 42-48 hours (broth) or 48 hours (agar – up to 72 hours if necessary).

| ORGANISM | ATCC™ | INOCULUM CFU | RECOVERY |
|---------------------------------|-------|----------------------------------|----------|
| <i>Kluyveromyces lactis</i> | 8563 | 10 ² -10 ³ | Good |
| <i>Saccharomyces cerevisiae</i> | 18790 | 10 ² -10 ³ | Good |
| <i>Saccharomyces cerevisiae</i> | 9080 | 10 ² -10 ³ | Good |

Principles of the Procedure

YPD Agar and YPD Broth contain peptone as a source of carbon, nitrogen, vitamins and minerals. Yeast extract supplies B-complex vitamins which stimulate bacterial growth. Dextrose is the carbohydrate source. YPD Agar contains agar as the solidifying agent.

Directions for Preparation from Dehydrated Product

1. Suspend the powder in 1 L of purified water:
Difco™ YPD Agar – 65 g;
Difco™ YPD Broth – 50 g.
Mix thoroughly.
2. Heat the agar medium with frequent agitation and boil for 1 minute to completely dissolve the powder.
3. Autoclave the agar and broth media at 121°C for 15 minutes.
4. Test samples of the finished product for performance using stable, typical control cultures.

Procedure

See appropriate references for specific procedures.

Expected Results

Growth of colonies on the agar or turbidity in the broth.

Reference

1. Ausubel, Brent, Kingston, Moore, Seidman, Smith and Struhl. 1994. Current protocols in molecular biology, Current Protocols, Brooklyn, N.Y.

Availability

Difco™ YPD Agar

| | | |
|----------|--------|--------------------|
| Cat. No. | 242720 | Dehydrated – 500 g |
| | 242710 | Dehydrated – 2 kg |

Difco™ YPD Broth

| | | |
|----------|--------|--------------------|
| Cat. No. | 242820 | Dehydrated – 500 g |
| | 242810 | Dehydrated – 2 kg |