

# 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.<sup>1</sup> 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.<sup>1</sup>

## 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 <sup>2</sup> -10 <sup>3</sup>	Good
<i>Saccharomyces cerevisiae</i>	18790	10 <sup>2</sup> -10 <sup>3</sup>	Good
<i>Saccharomyces cerevisiae</i>	9080	10 <sup>2</sup> -10 <sup>3</sup>	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