Brettanomyces Agar

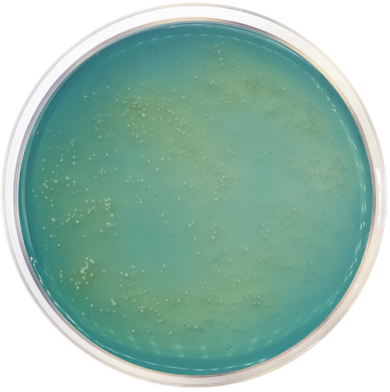
Cat. 2006

For the cultivation of Brettanomyces

Practical information

Aplications	Categories
Enrichment	Brettanomyces

Industry: Alcoholic beverages



Principles and uses

Brettanomyces Agar is a medium used for cultivation of Brettanomyces of wines.

Brettanomyces is a genus of yeast capable of growing in high concentrations of alcohol and of fermenting sugars that have not been used by Saccharomyces cerevisiae during fermentation. The presence of Brettanomyces is associated with the appearance of strange wine aromas due to the production of 4-ethyl guaiacol and 4-ethyl phenol.

Brettanomyces is also called Dekkera (name given to species with sexual reproduction and therefore, formation of spores by meiosis). It is generally found in red wines in barrels or bulk storage. since acids necessary to form some of the indicative aromas are extracted from grape skins, but infections have also been found in Chardonnay and Sauvignon Blanc.

Dextrose is the fermentable carbohydrate providing carbon and energy. Peptone and malt extract provide nitrogen, vitamins, minerals, and amino acids essential for growth. Yeast extract is source of vitamins, particularly the B group. Thiamine is a growth factor. Selective agents are added to improve Brettanomyces recovery through the inhibition of common contaminants as Saccharomyces cerevisiae.

Formula in g/L

Dextrose	10	Bacteriological agar	20
Bromocresol green	0,022	Chloramphenicol	0,1
Cycloheximide	0,01	Malt extract	3
Peptone	5	Thiamine	0,02
Yeast extract	3	Yeast nitrogen base	3
Coumaric acid	0,1		

Typical formula g/L * Adjusted and/or supplemented as required to meet performance criteria.

Preparation

Suspend 44,2 grams of the medium in one liter of distilled water .Mix well and dissolve by heating with frequent agitation. Boil for 10 minutes. Add 16 ml of ethanol and mix well. Pour into Petri plates. DO NOT AUTOCLAVE.

Instructions for use

- Inoculate and incubate at a temperature of 25-30 ºC and observe after 7 days.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Green-bluish	5,3±0,2

Microbiological test

Incubation conditions: (25-30 ºC / 7 days)

Microorganisms	Specification
Dekkera anomala ATCC 10562	Good growth
Salmonella typhimurium ATCC 14028	Inhibited growth
Escherichia coli ATCC 25922	Inhibited growth
Enterococcus faecalis ATCC 29212	Inhibited growth
Dekkera bruselensis ATCC 36234	Good growth
Saccharomyces cerevisiae ATCC 9763	Inhibited growth

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

Bibliography

Winemaking update. Brettanomyces / dekkera. Control y detección en bodegas.
Wine Microbiologists practical application and procedure.
Silva, P., Cardoso, and H. Gerós. 2004. Studies on the wine spoilage capacity of Brettanomyces/Dekkera spp. Am. J. Enol. Vitic. 55: