

Oxytetra Glucose Yeast Agar Base (OGYE Agar Base)

Catalogue No. AS-1449

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Product Information

Product name	Oxytetra Glucose Yeast Agar Base (OGYE Agar Base)
Catalogue number	AS-1449
Other names	OGYE Agar; Oxytetracycline-Glucose-Yeast Extract Agar
Product type	Dehydrated selective culture medium base
Pack size	500 g (yields about 13.5 L)
Usage	37.0 g/L (18.5 g per 500 mL)
Final pH	7.0 ± 0.2 at 25 °C
Supplement required	Oxytetracycline, 100 mg/L (supplied separately)

Intended Use

OGYE Agar is used for the selective enumeration of yeasts and moulds in foods, including milk and dairy products. For laboratory microbiological testing, quality control and research use only. Not intended for direct use in food, human or veterinary therapeutic applications, diagnosis, or consumption.

Summary and History

Mossel and colleagues (1962, 1970) showed that yeasts stressed by heat or processing are counted more completely on a neutral medium made selective with a broad-spectrum antibiotic than on acidified media. Oxytetracycline also inhibits lactobacilli, which can grow on acidified media and interfere with counts.

Mode of Action

Yeast extract supplies vitamins, nitrogen and growth factors, and glucose provides energy for fungal growth. Oxytetracycline inhibits protein synthesis in most bacteria. The neutral pH supports recovery of injured yeast cells that would not grow at low pH.

Typical Formula

Ingredient	g/L	Function
Yeast extract	5.0	Vitamins, nitrogen and growth factors
Glucose	20.0	Energy and carbon source
Agar	12.0	Solidifying agent
Total	37.0	
Oxytetracycline (added after autoclaving)	0.1	Selective agent

Formula may be adjusted to meet performance requirements.

Preparation

- Suspend 18.5 g of powder in 500 mL of purified water.
- Heat to boiling to dissolve completely.
- Autoclave at 121 °C for 15 minutes.
- Cool to 45–50 °C and aseptically add oxytetracycline to a final concentration of 100 mg/L (50 mg per 500 mL). Do not autoclave the antibiotic.
- Mix gently and pour into sterile Petri dishes.

Test Procedure

- Prepare decimal dilutions of the sample. Use pour or spread plates.
- Add no more than 1 mL of a 10^{-1} dilution per plate, so the food does not inactivate the antibiotic.
- Incubate aerobically at 22–25 °C for up to 5 days. Examine after 3 days, and count earlier if moulds spread.
- Report yeasts and moulds as CFU per g or mL.

Quality Control

Recommended control strains, with oxytetracycline added. Incubate at 25 °C for 3–5 days.

Control strain	Inoculum (CFU)	Expected result
<i>Saccharomyces cerevisiae</i> ATCC 9763 (WDCM 00058)	50–100	Good growth
<i>Candida albicans</i> ATCC 10231 (WDCM 00054)	50–100	Good growth
<i>Aspergillus brasiliensis</i> ATCC 16404 (WDCM 00053)	50–100	Good growth
<i>Escherichia coli</i> ATCC 25922 (WDCM 00013)	$\geq 10^3$	Inhibited
<i>Bacillus subtilis</i> ATCC 6633	$\geq 10^3$	Inhibited

Limitations

- Very proteinaceous foods and incubation around 35 °C inactivate oxytetracycline, allowing bacterial growth.
- For samples heavily contaminated with Gram-negative bacteria, add gentamicin (OGGY) or use DRBC agar.
- The medium does not restrict mould spreading; fast-spreading moulds may obscure other colonies.
- For low water activity foods (≤ 0.95), DG18 agar gives better recovery of xerophilic fungi.

Storage and Shelf Life

Dehydrated base	Store at 15–25 °C in a dry place with the container tightly closed. Hygroscopic. Use before the expiry date on the label.
Prepared plates	Store at 2–8 °C, protected from light. Validate the use period in-house.
Signs of deterioration	Caking, discolouration or moisture absorption in the powder.

References

- Mossel DAA, Kleynen-Semmeling AMC, Vincentie HM, Beerens H, Catsaras M. Oxytetracycline-glucose-yeast extract agar for selective enumeration of moulds and yeasts in foods and clinical material. J Appl Bacteriol. 1970;33:454–457.
- Mossel DAA, Visser M, Mengerink WHJ. A comparison of media for the enumeration of moulds and yeasts in foods and beverages. Lab Pract. 1962;11:109–112.
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- Salfinger Y, Tortorello ML, eds. Compendium of Methods for the Microbiological Examination of Foods. 5th ed. APHA; 2015.

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