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Complete Medium or Complete Medium Xylose (from Leach, Lang and Yoder 1982) V.2

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Protocol status: In development
We are still developing and optimizing this protocol

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Keywords: maintenance of cochliobolus carbonum, cochliobolus carbonum, complete medium xylose

Abstract

For the growth and maintenance of Cochliobolus carbonum and Cochliobolus victoriae

Materials

Trace Minerals

Boric Acid (H3BO3) CAS:10043-35-3
Cupric Sulfate (CuSO4) CAS: 7758-98-7
Potassium Iodide (KI) CAS:7681-11-0
Manganese (II) sulfate monohydrate $MnSO_4$ * H2O CAS: 10034-96-5
Sodum permanganate monohydrate $NaMoO_4$ *H2O CAS: 79048-36-5
Zinc sulfate heptahydrate $ZnSO_4$ * 7 H_2O CAS: 7446-20-0
Iron (III) chloride hexahydrate $FeCl_3$ * 6H_2O CAS: 10025-77-1

Salts

Calcium nitrate tetrahydrate $Ca(NO_3)_2$ * 4 H_2O CAS: 13477-34-4
Potassium Phosphate monobasic KH2PO4 CAS: 7778-77-0
Magnesium Sulfate heptahydrate MgSO4 * 7H2O CAS: 10034-99-8
Sodium Chloride NaCl CAS: 7647-14-5

Media

Yeast Extract CAS: 8013-01-2 (some people report differences between difference sources)

Casein Digests: Still a bit of work to do here to determine, which of these is best (including new plant-based sources). Big differences in prices between different digest types.
Acid hydrolysed Casein CAS: 65072-00-6
Peptone from casein, tryptic digest OR pancreatic digest (tryptone) CAS: 91079-40-2

Troubleshooting

Make Micronutrients Solution

1 9 mg H_3BO_3
58.5 mg $CuSO_4$ *$5H_2O$
1.95 mg KI (Potassium Iodine)
9 mg $MnSO_4$
7.6 mg $NaMoO_4$
822 mg $ZnSO_4$ * 6 H_2O
139.8 mg $FeCl_3$ * $6H_2O$

in 300 mL ddH2O and filter sterilise

Citation:
Heterokaryosis and Parasexuality in the Fungus Ascochyta Imperfecta Author(s): K. E. Sanderson and A. M. Srb Source: American Journal of Botany , Jan., 1965, Vol. 52, No. 1 (Jan., 1965), pp. 72-81 Published by: Wiley Stable URL: https://www.jstor.org/stable/2439977

Make 100x Salt Solutions A and B

2 **100X Salt Solution A**

10g $Ca(NaO_3)_2$ * 4 H_2O
100 mL ddH_2O

Autoclave

Citation:
Leach, J., Lang, B. R. & Yoder, O. C. *Microbiology***128**, 1719-1729, doi:https://doi.org/10.1099/00221287-128-8-1719 (1982).

3 **100X Salt Solution B**

2 g KH_2PO_4 * 7 H_2O
1.5g NaCl

100 mL H2O
pH 5.3

Autoclave

Citation:
Leach, J., Lang, B. R. & Yoder, O. C. *Microbiology***128**, 1719-1729, doi:https://doi.org/10.1099/00221287-128-8-1719 (1982).

Make Complete Medium (CM) or Complete Medium Xylose (CMX)

4 **Complete Medium Base**

10 g glucose OR xylose (substitute glucose for xylose for CMX medium)
1 g Yeast Extract
0.5 g Acid-hydrolysed Casein
0.5 g Enzyme-hydrolysed casein
20g Agar
10 mL Salt A
10 mL Salt B

Make up to 1000 mL with ddH2O and Autoclave

After autoclaving add:
1 mL sterilised micronutrient solution

Citation:
Leach, J., Lang, B. R. & Yoder, O. C. *Microbiology***128**, 1719-1729, doi:https://doi.org/10.1099/00221287-128-8-1719 (1982).

Complete Medium for Sporulation

5 **Complete Medium Base**

0.5 g glucose OR xylose (substitute glucose for xylose for CMX medium)
20 g Sorbose
1 g Yeast Extract
0.5 g acid hydrolysed casein
0.5 g enzyme hydrolysed casein
20g Agar

10 mL Salt A
10 mL Salt B

Make up to 1000 mL with ddH2O and Autoclave

After autoclaving add:
1 mL sterilised micronutrient solution

Protocol references

Citation:
Heterokaryosis and Parasexuality in the Fungus Ascochyta Imperfecta Author(s): K. E. Sanderson and A. M. Srb Source: American Journal of Botany , Jan., 1965, Vol. 52, No. 1 (Jan., 1965), pp. 72-81 Published by: Wiley Stable URL: https://www.jstor.org/stable/2439977

Leach, J., Lang, B. R. & Yoder, O. C. *Microbiology***128**, 1719-1729, doi:https://doi.org/10.1099/00221287-128-8-1719 (1982).