Cryopreservation of labyrinthulomycetes with DMSO and horse serum

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Abstract

Modified from one of the methods tested by Cox et al. 2009

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Protocol

Grow up cells

Step 1.

For Aurantiochytrium and Schizochytrium, we've grown cultures in 790By+ (or 1/2 790By+) to late-log or early stationary phase.

NOTES
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We have not experimented with how growth phases affects cryopreservation success with these strains.

We are still testing other strains; this protocol may not work for Oblongichytrium.

Mix cells with cryopreservant

Step 2.

To a 2.0 ml cryovial, add

600 ul cell culture

300 ul horse serum

100 ul DMSO

mix gently

Slowly freeze cells

Step 3.

Place cyrovials in Mr Frosty (filled with isopropanol as instructed)

Place Mr Frosty in -80 freezer overnight

Long-term storage

Step 4.

Transfer cryovials to a -80 freezer for storage

To revive cells

Step 5.

Thaw at 30C for 3-5 min, until just melted

Pour into 10 ml growth medium (such as 790)

Return to standard growth conditions

NOTES

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Sometimes cultures growth is evident the next day; sometimes it takes nearly a week.