Polar marine brown seaweeds (gametophytes)

Note: The culturing conditions below are not necessarily the optimal growth conditions for each strain, as much variation is found between strains, and cultures are not always kept in optimal growth conditions at CCAP for practical reasons. There may be more info in the individual strain data on the website.

On receipt of culture: cultures should be subcultured into fresh sterile medium as described below, ideally within a few days of receipt. If the culture vessel is very full on receipt and subculturing cannot be done immediately, we advise transferring half of the culture to a sterile container to provide air space.

ACDP Hazard Gp: 1 - Non pathogenic / non hazardous. Unlikely to cause human disease.

Culture Medium: Modified Provasoli medium (MP – half or full strength) Check individual strain data. Media recipes can be found on our website: www.ccap.ac.uk/index.php/media-recipes/

Lighting: Low/shaded light, a paper towel can be placed over the flasks to diffuse the light further if needed. **Note that CCAP 1318/1 *Saccharina latissima* is cultured in red light – at CCAP we use red film around the culture vessels.**

Light Cycle: 12h light : 12h dark (for faster growth try 16h:8h)

Temperature: 2-3 degrees C

Sub Interval: 3-6 months depending on growth (which is generally slow)

Culture Vessel: small petri dishes

Culture Method:

Check cultures by eye or using inverted microscope in the petri dish. Appearance of cultures can range from big brown blobs to small filamentous clumps. Generally darker cultures are healthier, and any whiteness or pale colouring may indicate a failing culture.

A failing culture can be revived by subculturing more frequently or by using an orbital shaker on a gentle setting. Alternative media may be used such as sterile Volvic water in a 1:1 ratio with half-strength MP, or incubation at a slightly increased temperature.

Label petri dishes and fill to halfway with sterile media. Agitate existing culture and transfer by adding ⅓ to ½ of the material to fresh sterile medium – small clumps/balls can be transferred whole, larger clumps can be gently pulled apart with sterile tweezers.

Growth may be improved by placing flasks on an orbital shaker, on a gentle setting.

Use strict aseptic techniques throughout and if possible carry out all subculturing within a laminar flow cabinet (particularly for axenic strains).