Viruses from Hypersaline Waters

Kenneth M. Stedman, Kate Porter, and Mike L. Dyall-Smith

Abstract

This is a protocol from:

Stedman, K. M., K. Porter, and M. L. Dyall-Smith. 2010. Chapter 6: The isolation of viruses infecting Archaea. Manual of Aquatic Viral Ecology. Waco, TX:American Society of Limnology and Oceanography. doi:10.4319/mave.2010.978-0-9845591-0-7

Please see the published manuscript for additional information.

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Guidelines

Authors: Kenneth M. Stedman[1], Kate Porter[2], and Mike L. Dyall-Smith[3]
[1]Department of Biology, Center for Life in Extreme Environments, Portland State University, P.O. Box 751, Portland, OR 97207, USA
[2]Biota Holdings Limited, 10/585 Blackburn Road, Notting Hill Victoria 3168, Australia
[3]Max Planck Institute of Biochemistry, Department of Membrane Biochemistry, Am Klopferspitz 18, 82152 Martinsried, Germany

Artificial salt water and medium MGM:
Artificial salt water solutions are designed to mimic the natural concentrated brines where haloarchaea are found. The formulation used by M. Dyall-Smith (described in the online handbook, the *Halohandbook*, http://www.haloarchaea.com/resources/halohandbook/) is based on that described by Rodriguez-Valera et al. (Rodriguez-Valera et al. 1980; Torreblanca et al. 1986).
Per liter, it contains:

4 M NaCl

150 mM $MgCl_2$

150 mM $MgSO_4$

90 mM KCl

3.5 mM $CaCl_2$

adjusted to pH 7.5 using ca. 2 mL 1 M Tris-HCl (pH 7.5). At 30% w/v, the total salts are present in a much higher concentration than in seawater, but in approximately the same proportions. Adjustments of Mg^{2+}, pH, or other conditions may be necessary for specific haloarchaeal groups. Modified growth medium (MGM) contains 5 g peptone and 1 g yeast extract per liter of salt water. The salt concentration is varied according to the host strain, and is detailed in the Halohandbook.

Protocol