

Matteck Corporation, USA). This microscope was also used to acquire bright-field images of cells.

2.2.2 General Equipment

A Toledo 320 pH meter from Mettler (Toledo, Switzerland), 3150 pH meter (Jenway) or Hydrion pH indicator paper (Sigma-Aldrich; UK) were used for pH measurements.

Samples were freeze-dried with a Flexi Dry FD-1.540 freeze-dryer from FTS Systems (USA) connected to a DD75 double stage, high vacuum pump from Javac (Australia).

SDS-Page gels were cast in a Bio-Rad vertical gel cast and the electrophoresis current supplied by Bio-Rad Power Pac 300 (Bio-Rad, UK). Agarose gels were prepared in a 11x14 cm gel cast and the subsequent electrophoresis was performed in a Horizon 11.14 electrophoresis tank from Life Technologies, Gibco (UK) with current supplied by EC135 Transformer (EC Apparatus Corp., USA).

Centrifugation was performed with a Varifuge 3.0 RS centrifuge supplied by Heraeus Instruments (Germany). When speeds greater than 4000 relative centrifugal force (RCF) were needed an Optima LE-80K centrifuge from Beckman Coulter (USA) was used. Eppendorfs were centrifuged in an Eppendorf 5417 R bench-top centrifuge with standard fixed angle rotor (model 5417 C/R; Eppendorf, Germany).

2.3 General Methods

Here, those general methods are described which were used throughout the studies repeated in more than one of the following Chapters. Specific methods integral to the substance of the specific studies e.g. synthetic methods are repeated in the relevant Chapter.

2.3.1 Cell Culture

Cell culture was carried out according to the guidelines provided by ATCC (ATCC, 2003). All manipulations with the exception of the centrifugation step, were performed in a class II laminar flow hood using sterilised consumables that had first been decontaminated with 70 % (v/v) ethanol. Cells were incubated and maintained in incubators at 37 °C in a 5 % CO₂ atmosphere that had a water humidifying tray containing copper II sulphate unless otherwise stated. All cells were mycoplasma free