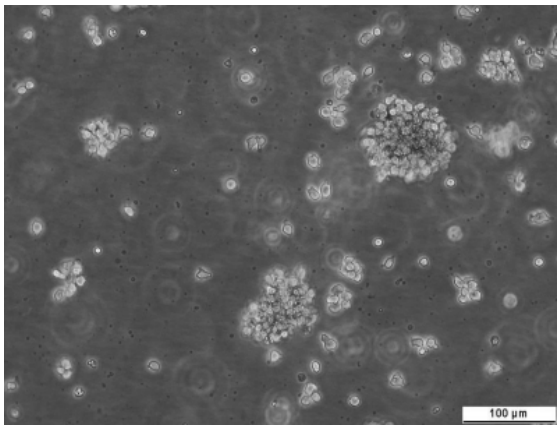
Cell line profile

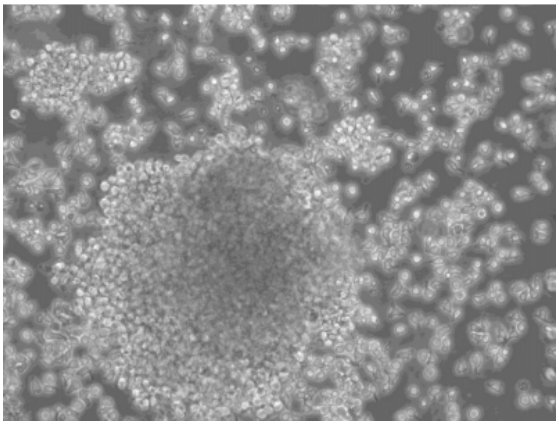
Nb2-11 (ECACC catalogue no. 97041101)

Cell line history

Nb2-11 is a clone of the Nb-2 rat lymphoma line deposited by Drs Gout and Friesen while at the Department of Cancer Endocrinology, British Columbia Cancer Agency, Vancouver. The cell line was originally developed from a transplant of a lymphoma which developed in the thymus/lymph node of a male Noble (Nb) strain rat following treatment with oestrogen. These cells originate from pre-T cells, and depend on mammalian lactogens, for example prolactin (**Gout, Beer and Noble, 1980**) to proliferate. Alternatively, the addition of IL-2 (interleukin-2) can also stimulate its growth (**Cantrell and Smith, 1984**). If Noble rats are injected with Nb2 or its clones, malignant tumours will start to develop. These tumours are highly sensitive to treatment with vinca alkaloids (**Gout, Noble and Beer, 1986**). The Noble strain rat and the Nb-2 cell line were subjected to karyotypic analysis, which found that the karyotype of the prolactin dependant Nb-2 cell lines had a number of defined chromosomal abnormalities compared to the rat strain which was developed (**Horsman, Masui and Gout, 1991**).



48 hours post resuscitation


Prior to cryopreservation

Key characteristics

Nb2-11 cells are lymphoblastoid cells which grow in suspension and clump to form clusters when they are close to full confluence.

Applications

Nb2-11 cells have been used in a variety of applications – for example, they were used as part of a cell proliferation assay to assess the effect of exposing Nb2-11 cells to concentrations of hGH (a lactogenic hormone) (**Nguyen *et al*, 2014**). Another example of its application is an experiment which used ultrasonic sound waves to try and manipulate live Nb2-11 cells – that being their alignment, translocation and concentration (**Siddique *et al*, 2014**). Nb2-11 cells also present a model for tumour growth (**Horsman, Masui and Gout, 1991**), and putative anticancer treatments can be applied to the cells to assess their

effectiveness. The cell line has also been used in a study to compare histochemical and immunochemical methods for the analysis of prolactin binding sites on Nb2-11 (**Michel and Parsons, 1990**).

Culture tips

Nb2-11 cells should be cultured in Fischer's medium (Life Technologies product number: 21475025) with the addition of 10% Foetal Bovine Serum (FBS), 10% Horse Serum (gelding), 0.075% Na Bicarbonate, 0.05mM 2-Mercaptoethanol (2ME) and 2mM Glutamine. At resuscitation, cultures should be passaged between 3-5x10^5 cells/ml. Once established, cultures should be seeded at 4x10^3 cells/ml for culture periods of 96 hours, and 1.2x10^4 cells/ml for culture periods of 72 hours. The flasks should be kept at 37°C with 5% CO_2, and checked daily. Do not allow the cell density to exceed 9x10^5 cells/ml, as they will reach maximum confluence and will not continue to grow. The culture doubling time of these cells is approximately 12 hours.

Key References

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