

A novel canine B-cell line derived from a diffuse large cell lymphoma

BACKGROUND

Canine lymphoma is the most common spontaneously occurring hematopoietic neoplasia in dogs and has many similarities to non-Hodgkin's lymphoma (NHL) in humans. However, in vitro studies have been limited by the lack of validated, well characterized and widely available canine lymphoma cell lines. To further accelerate the use of spontaneous cancers in dogs as a model system for cancer cell biology and new anti-cancer drug development, we established the B-cell lymphoma cell line (CLBL-1) from a fine needle aspirate (FNA) of a dog with a multicentric B-cell lymphoma. Up to date (June 2011) this cell line was kept in continuous culture without any growth factors for 117 passages.

Cytology, immunophenotyping (FCM), polymerase chain reactions for antigen receptor rearrangements (PARR), gene expression profiling and tumorigenicity in a xenograft model confirmed the CLBL-1 cell line as Diffuse Large B-cell Lymphoma (DLBCL).

Therefore CLBL-1 represents an interesting candidate for further studies of canine lymphoma with the potential to trigger additional translational and comparative lymphoma research in humans and dogs.

ADVANTAGES

- Canine Diffuse large B-cell lymphoma
- grows in free floating clusters with a doubling time of 31 hours without any growth factors
- shows a stable phenotype
- exhibits a monoclonal IgH gene rearrangement in PCR analysis

FURTHER READING

Rütgen BC, Hammer SE, Gerner W, Christian M, Guija de Arespacochaga A, Willmann M, Kleiter M, Schwendenwein I, Saalmüller A. 2010.

Establishment and characterization of a novel canine B-cell line derived from a spontaneously occurring diffuse large cell lymphoma. *Leuk Res*, 34:932-938.

REFERENCE:
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