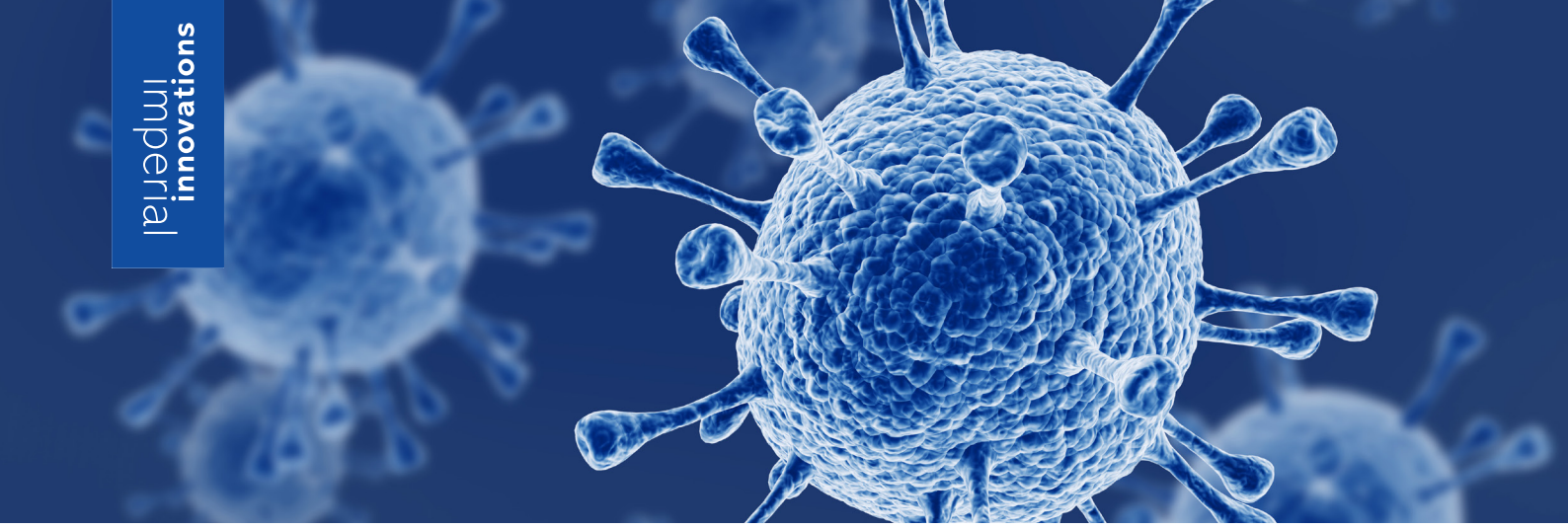

CXCR3

Murine pre-B cell line transformed to express human CXCR3

Background

CXCR3 (also known as G protein-coupled receptor 9 (GPR9) and CD183) is a chemokine receptor predominantly expressed in T lymphocytes. It is also expressed on natural killer cells and some epithelial cells. Among its agonists are CXCL9, CXCL10 and CXCL11, all IFN-γ-inducible chemokines that promote Th1 responses.

CXCR3 therefore plays an important role in immune response and inflammation. Specifically, it is involved with leukocyte trafficking, with CXCR3-ligand interaction playing a role in the attraction and maturation of a subset of T lymphocytes (Th1).

CXCR3 has been implicated in a number of diseases, including:

- Atherosclerosis
- Multiple Sclerosis
- Pulmonary fibrosis
- Type 1 diabetes
- Other autoimmune diseases

CXCR3 is therefore a target of research interest, particularly in the development of therapeutics that target the CXCR3-ligand interaction.

Cell lines

A murine pre-B cell line L1.2 has been transformed to express human CXCR3. This allows experiments targeting CXCR3-ligand interactions to be performed on a mammalian cell line, but without the additional restrictions of those cells being human. This cell line has been used in a number of peer-reviewed publications[1,2].

The cell line has been developed by Dr James Pease and colleagues at Imperial College London.

References

1. Xanthou et al. (2003) CCR3 functional responses are regulated by both CXCR3 and its ligands CXCL9, CXCL10 and CXCL11, European Journal of Immunology 33(8):2241-50

2. Meiser et al. (2008) The chemokine receptor CXCR3 is degraded following internalization and is replenished at the cell surface by de novo synthesis of receptor, Journal of Immunology 180(10):6713-24

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