

# Basiliximab

**Basiliximab** (trade name **Simulect**) is a chimeric mouse-human monoclonal antibody to the  $\alpha$  chain (CD25) of the IL-2 receptor of T cells. It is used to prevent rejection in organ transplantation, especially in kidney transplants. It is a Novartis product and was approved by the Food and Drug Administration (FDA) in 1998.

## 1 Uses

Basiliximab is an immunosuppressant agent used to prevent immediate transplant rejection in people who are receiving kidney transplants, in combination with other agents.<sup>[1]</sup> It has been reported that some cases of lichen planus have been successfully treated with basiliximab as an alternative therapy to ciclosporin. No short-term side effects have been reported <sup>[2]</sup>

## 2 Mechanism of action

Basiliximab competes with IL-2 to bind to the alpha chain subunit of the IL2 receptor on the surface of the activated T lymphocytes and thus prevents the receptor from signaling. This prevents T cells from replicating and also from activating B cells, which are responsible for the production of antibodies, which would bind to the transplanted organ and stimulate an immune response against the transplant.<sup>[3][4]</sup>

## 3 Chemistry

It is a chimeric CD25 monoclonal antibody of the IgG1 isotype.<sup>[3][4]</sup>

## 4 History

It is a Novartis product and was approved by the Food and Drug Administration (FDA) in 1998.<sup>[4][5]</sup>

## 5 References and notes

[1] MedlinePlus. Last Revised - June 15, 2012 Basiliximab Injection

[2] A.D. Katsambas, T.M. Lotti European handbook of dermatological treatments 2nd edition, 2003, page 291, ISBN 3-540-00878-0

[3] Hardinger KL, Brennan DC, Klein CL. Selection of induction therapy in kidney transplantation. *Transpl Int.* 2013 Jul;26(7):662-72. PMID 23279211

[4] Basiliximab label

[5] Waldman, Thomas A. (2003). Immunotherapy: past, present and future. *Nature Medicine* **9**, 269-277.

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