

Product Information



CysLT₁ Receptor Blocking Peptide

Item No. 320500

The cysteinyl leukotrienes (LTC₄, LTD₄, and LTE₄) contract airway and pulmonary vascular smooth muscle, increase vascular permeability, and stimulate mucus secretion, thereby playing a major role in asthma.¹⁻⁴ LTC₄, LTD₄, and LTE₄ mediate their actions *via* at least 2 receptors designated cysLT₁ and cysLT₂.¹ Cloning of the human cysLT₁ receptor reveals it is a 337 amino acid protein with a calculated molecular mass of 38,549.⁵ The rank order of binding for LTs to the cloned receptor, as determined using a radioligand binding assay, is LTD₄ >> LTC₄ = LTE₄ >> LTB₄.⁵ The mRNA for the human cysLT₁ receptor is expressed in spleen and peripheral blood leukocytes with smaller amounts in lung, placenta, and small intestine.

Laboratory Procedures

This vial contains 200 µg of lyophilized peptide derived from the human cysLT₁ receptor protein sequence. This peptide was used as an antigen for production of the cysLT₁ receptor polyclonal antibody (Item No. 120500) and can be used in conjunction with this antibody to block protein-antibody complex formation during immunochemical analysis for this receptor.

Reconstitute the lyophilized peptide with 200 µl of PBS or distilled water. Store this peptide solution at -20°C. It will be stable for at least two years. To block antibody/protein complex formation, the following procedure is recommended:

1. Mix the CysLT₁ Polyclonal Antibody (Item No. 120500) and blocking peptide together in a 1:1 (v/v) ratio in a microfuge tube. For example, mix 20 µl of antibody and 20 µl of peptide.*
2. Incubate for one hour at room temperature with occasional mixing prior to further dilution and application of the mixture to the immunoblot.
3. Dilute the mixture to the final working antibody concentration and apply to the slide or membrane as usual.

*This is a recommended mixture. The minimum amount of peptide needed for complete blocking has not been precisely determined and may vary depending on the sample being analyzed. The amount of peptide required may need to be increased if sufficient blocking does not occur.

References

1. Gorenne, I., Norel, X., and Brink, C. Cysteinyl leukotriene receptors in the human lung: What's new? *Trends Pharmacol. Sci.* **17**, 342-343 (1996).
2. Dahlén, S.-E., Hansson, G., Hedqvist, P., *et al.* Allergen challenge of lung tissue from asthmatics elicits bronchial contraction that correlates with the release of leukotrienes C₄, D₄, and E₄. *Proc. Natl. Acad. Sci. USA* **80**, 1712-1716 (1983).
3. Busse, W.W. The role of leukotrienes in asthma and allergic rhinitis. *Clin. Exp. Allergy* **26**, 868-879 (1996).
4. Hedqvist, P., Dahlén, S.-E., Gustafsson, L., *et al.* Biological profile of leukotrienes C₄ and D₄. *Acta Physiol. Scand.* **110**, 331-333 (1980).
5. Lynch, K.R., O'Neill, G.P., Liu, Q., *et al.* Characterization of the human cysteinyl leukotriene CysLT₁ receptor. *Nature* **399**, 789-793 (1999).

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MATERIAL SAFETY DATA

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