

- tion of Th1 cells. *Immunol. Today* (1993) **14**, 335.
5. Bette, M., Jin, S.C., Germann, T., Schafer, M.K., Weihe, E., Rude, E., Fleischer, B. Differential expression of mRNA encoding interleukin-12 p35 and p40 subunits in situ. *Eur. J. Immunol.* (1994) **24**, 2435-2440.
 6. Chan, S.H., Perussia, B., Gupta, J.W., Kobayashi, M., Pospisil, M., Young, H.A. et al. Induction of interferon- γ production by natural killer cell stimulatory factor: Characterization of the responding cells and synergy with other inducers. *J. Exp. Med.* (1991) **173**, 869.
 7. Chan, S.H., Kobayashi, M., Santoli, D., Perussia, B., Trinchieri, G. Mechanism of IFN- γ induction by natural and mRNA stability in the synergistic interaction between NKSF and IL-2. *J. Immunol.* (1992) **148**, 92.
 8. Yawalkar, N., Brand, C.U., Braathen, L.R. IL-12 gene expression in human skin-derived CD1a $^+$ dendritic lymph cells. *Arch. Dermatol. Res.* (1996) **288**, 79-84.
 9. Bucht, A., Larsson, P., Weisbrodt, L., Thorne, C., Pisa, P., Smedegard, G. et al. Expression of interferon-gamma (IFN- γ), IL-10, IL-12 and transforming growth factor-beta (TGF- β) mRNA in synovial fluid cells from patients in the early and late phases of rheumatoid arthritis (RA). *Clin. Exp. Immunol.* (1996) **103**, 357-367.
 10. Trinchieri, G. Interleukin-12: A cytokine produced by antigen presenting cells with immunoregulatory functions in the generation of T-helper cells type I and cytotoxic lymphocytes. *Blood* (1994) **84**, 4008.
 11. Hamid, Q., Naseer, T., Minshall, E.M., Song, Y.L., Boguniewicz, M., Leung, D.Y. In vivo expression of IL-12 and IL-13 in atopic dermatitis. *J. Allergy Clin. Immunol.* (1996) **98**, 225-231.
 12. Lester, M.R., Hofer, M.F., Gately, M., Trumble, A., Leung, D.Y. Down-regulating effects of IL-4 and IL-10 on the IFN- γ response in atopic dermatitis. *J. Immunol.* (1995) **154**, 6174-6181.
 13. Grewe, M., Walther, S., Gyufko, K., Czech, W., Schopf, E., Krutmann, J. Analysis of the cytokine pattern expressed in situ in inhalant allergen patch test reactions of atopic dermatitis patients. *J. Invest. Dermatol.* (1995) **105**, 407-410.
 14. Shigeru, K., Ralph, S. Jr., Ronald, L.W. A simple nested RT-PCR method for quantitation of the relative amounts of multiple cytokine mRNAs in small tissue samples. *J. Immunol. Methods* (1996) **199**, 193-203.
 15. Ajjan, R.A., Watson, P.F., Weetman, A.P. Detection of IL-12, IL-13, and IL-15 messenger ribonucleic acid in the thyroid of patients with autoimmune thyroid disease. *J. Clin. Endocrinol. Metab.* (1997) **82**, 666-669.
 16. Zurawski, G., Vries, J.E. Interleukin 13, an interleukin 4-like cytokine that acts on monocyte and B cells, but not on T cells. *Immunol. Today* (1994) **15**, 19-26.
 17. Hanifin, J.M., Rajka, G. Diagnostic features of atopic dermatitis. *Acta Derm. Venerol. Suppl. Stockh.* **92**, 44-47.
 18. Sai, C.C., Li, S.H., Hanifin, J.M. Increased Interleukin-4 Production by atopic mononuclear leukocytes correlates with increased cyclic adenosine monophosphate-phosphodiesterase activity and is reversible by phospho-diesterase inhibition. *J. Invest. Dermatol.* (1993) **100**, 681-684.
 19. Cooper, K.D., Kang, K., Chan, S.C., Hanifin, J.M. Phosphodiesterase inhibition by Ro 20-1724 reduces hyper-IgE synthesis by atopic dermatitis cells in vitro. *J. Invest. Dermatol.* (1985) **84**, 477-482.
 20. Hanifin, J.M. New therapeutic rewards from clinical research in atopic dermatitis. *J. Dermatol.* (1994) **21**, 705-708.
 21. Chua, A.O., Chizzonite, R., Desai, B.B., Truitt, T.P., Nunes, P., Minetti, L.J. et al. Expression cloning of a human IL-12 receptor component: a new member of the cytokine receptor superfamily with strong homology to gp130. *J. Immunol.* (1994) **153**, 128.
 22. Fujimura, T., Yamanashi, R., Masuzawa, M., Fujita, Y., Katsuoka, K., Nishiyama, S. et al. Conversion of the CD4+ T cell profile from T(H2)-dominant type to T(H1)-dominant type after varicella-zoster virus infection in atopic dermatitis. *J. Allergy Clin. Immunol.* (1997) **100**, 274-282.
 23. Hanifin, J.M., Chan, S.C. Monocyte phosphodiesterase abnormalities and dysregulation of lymphocyte function in atopic dermatitis. *J. Invest. Dermatol.* (1995) **105**, 84S-88S.
 24. McFadden, E.R. Introduction: methylxanthine therapy and reversible airway obstruction. *Am. J. Med.* (1985) **79(6A)**, 1-4.
 25. Hanifin, J.M., Chan, S.C., Cheng, J.B., Tofte, S.J., Henderson, W.R. Jr., Kirby, D.S. et al. Type 4 phosphodiesterase inhibitors have clinical and invitro anti-inflammatory effects in atopic dermatitis. *J. Invest. Dermatol.* (1996) **107**, 51-56.
 26. Takamatsu, Y., Hasagawa, M., Sato, S., Takehara, K. IL13 production by peripheral blood mononuclear cells from patients with atopic dermatitis. *Dermatol.* (1998) **196**, 377-381.