

8. Literaturverzeichnis

- Abbas A.K., Murphy K.M. & Sher A. (1996)
Functional diversity of helper T lymphocytes.
Nature, **383**, 787-93.
- Adolf G.R. (1987)
Antigenic structure of human interferon omega 1 (interferon alpha II1):
comparison with other human interferons.
J Gen Virol, **68**, 1669-76.
- Aglietta M., Monzeglio C., Pasquino P., Carnino F., Stern A.C. & Gavosto F. (1993)
Short-term administration of granulocyte-macrophage colony stimulating
factor decreases hematopoietic toxicity of cytostatic drugs.
Cancer, **72**, 2970-3.
- Ashley D.M., Faiola B., Nair S., Hale L.P., Bigner D.D. & Gilboa E. (1997)
Bone marrow-generated dendritic cells pulsed with tumor extracts or tumor
RNA induce antitumor immunity against central nervous system tumors.
J Exp Med, **186**, 1177-82.
- Babbitt B.P., Allen P.M., Matsueda G., Haber E. & Unanue E.R. (1985)
Binding of immunogenic peptides to Ia histocompatibility molecules.
Nature, **317**, 359-61.
- Bagby G.C., Jr., Wilkinson B., McCall E. & Lee M. (1988)
Abnormalities of the hematopoietic regulatory network.
Adv Exp Med Biol, **241**, 255-64.
- Baier M., Bannert N., Werner A., Lang K. & Kurth R. (1997)
Molecular cloning, sequence, expression, and processing of the interleukin 16
precursor.
Proc Natl Acad Sci U S A, **94**, 5273-7.
- Banchereau J. & Steinman R.M. (1998)
Dendritic cells and the control of immunity.
Nature, **392**, 245-52.
- Banchereau J., Briere F., Caux C., Davoust J., Lebecque S., Liu Y.J., Pulendran B.
& Palucka K. (2000)
Immunobiology of dendritic cells.
Annu Rev Immunol, **18**, 767-811.
- Barclay A.N. & Mayrhofer G. (1981)
Bone marrow origin of Ia-positive cells in the medulla rat thymus.
J Exp Med, **153**, 1666-71.
- Baron S., Tying S.K., Fleischmann W.R., Jr., Coppenhaver D.H., Niesel D.W.,
Klimpel G.R., Stanton G.J. & Hughes T.K. (1991)
The interferons. Mechanisms of action and clinical applications.
JAMA, **266**, 1375-83.

- Barth A. & Morton D.L. (1995)
The role of adjuvant therapy in melanoma management.
Cancer, **75**, 726-34.
- Bauernhofer T., Stoger H., Schmid M., Smola M., Gurtl-Lackner B., Hofler G.,
Ranner G., Reisinger E. & Samonigg H. (1996)
Sequential treatment of recurrent mesenteric desmoid tumor.
Cancer, **77**, 1061-5.
- Beier I. (1999)
Herstellung und Charakterisierung rekombinanter equiner Interferone:
Expressionsklonierung, Darstellung der Proteine und der biologischen
Aktivität.
Dissertation vet med, FU Berlin.
- Bhardwaj N., Bender A., Gonzalez N., Bui L.K., Garrett M.C. & Steinman R.M.
(1994)
Influenza virus-infected dendritic cells stimulate strong proliferative and
cytolytic responses from human CD8+ T cells.
J Clin Invest, **94**, 797-807.
- Birbeck M.S., Breathnach A.S. & Everall J.D. (1961)
An electron microscope study of basal melanocytes and high-level clear cells
(Langerhans cells) in vitiligo.
J Invest Dermatol, **37**, 51-64.
- Björck P. & Kincade P.W. (1998)
CD19+ pro-B cells can give rise to dendritic cells in vitro.
J Immunol, **161**, 5795-9.
- Boczkowski D., Nair S.K., Nam J.H., Lyerly H.K. & Gilboa E. (2000)
Induction of tumor immunity and cytotoxic T lymphocyte responses using
dendritic cells transfected with messenger RNA amplified from tumor cells.
Cancer Res, **60**, 1028-34.
- Bode L., Steinbach F. & Ludwig H. (1994)
A novel marker for Borna disease virus infection.
Lancet, **343**, 297-8.
- Boehm U., Klamp T., Groot M. & Howard J.C. (1997)
Cellular responses to interferon-gamma.
Annu Rev Immunol, **15**, 749-95.
- Borrow P., Evans C.F. & Oldstone M.B. (1995)
Virus-induced immunosuppression: immune system-mediated destruction of
virus-infected dendritic cells results in generalized immune suppression.
J Virol, **69**, 1059-70.
- Briese T., de la Torre J.C., Lewis A., Ludwig H. & Lipkin W.I. (1992)
Borna disease virus, a negative-strand RNA virus, transcribes in the nucleus
of infected cells.
Proc Natl Acad Sci U S A, **89**, 11486-9.

- Brown M.A., Pierce J.H., Watson C.J., Falco J., Ihle J.N. & Paul W.E. (1987)
B cell stimulatory factor-1/interleukin-4 mRNA is expressed by normal and transformed mast cells.
Cell, **50**, 809-18.
- Brown M., Hu-Li J. & Paul W.E. (1988)
IL-4/B cell stimulatory factor 1 stimulates T cell growth by an IL-2-independent mechanism.
J Immunol, **141**, 504-11.
- Brown T.A. (1996)
Gentechnologie für Einsteiger.
Spektrum Akademischer Verlag GmbH, Heidelberg.
- Bujdoso R., Hopkins J., Dutia B.M., Young P. & McConnell I. (1989)
Characterization of sheep afferent lymph dendritic cells and their role in antigen carriage.
J Exp Med, **170**, 1285-301.
- Burd P.R., Rogers H.W., Gordon J.R., Martin C.A., Jayaraman S., Wilson S.D., Dvorak A.M., Galli S.J. & Dorf M.E. (1989)
Interleukin 3-dependent and -independent mast cells stimulated with IgE and antigen express multiple cytokines.
J Exp Med, **170**, 245-57.
- Buus S., Sette A., Colon S.M., Miles C. & Grey H.M. (1987)
The relation between major histocompatibility complex (MHC) restriction and the capacity of Ia to bind immunogenic peptides.
Science, **235**, 1353-8.
- Cantrell M.A., Anderson D., Cerretti D.P., Price V., McKereghan K., Tushinski R.J., Mochizuki D.Y., Larsen A., Grabstein K., Gillis S. & et al. (1985)
Cloning, sequence, and expression of a human granulocyte/macrophage colony-stimulating factor.
Proc Natl Acad Sci U S A, **82**, 6250-4.
- Cantrell D. (1996)
T cell antigen receptor signal transduction pathways.
Annu Rev Immunol, **14**, 259-74.
- Carter L.L. & Dutton R.W. (1996)
Type 1 and type 2: a fundamental dichotomy for all T-cell subsets.
Curr Opin Immunol, **8**, 336-42.
- Caux C., Dezutter-Dambuyant C., Schmitt D. & Banchereau J. (1992)
GM-CSF and TNF-alpha cooperate in the generation of dendritic Langerhans cells.
Nature, **360**, 258-61.

- Cella M., Scheidegger D., Palmer-Lehmann K., Lane P., Lanzavecchia A. & Alber G. (1996)
Ligation of CD40 on dendritic cells triggers production of high levels of interleukin-12 and enhances T cell stimulatory capacity: T-T help via APC activation.
J Exp Med, **184**, 747-52.
- Celluzzi C.M., Mayordomo J.I., Storkus W.J., Lotze M.T. & Falo L.D., Jr. (1996)
Peptide-pulsed dendritic cells induce antigen-specific CTL-mediated protective tumor immunity.
J Exp Med, **183**, 283-7.
- Chen L., Suzuki Y. & Wheelock E.F. (1987)
Interferon-gamma synergizes with tumor necrosis factor and with interleukin 1 and requires the presence of both monokines to induce antitumor cytotoxic activity in macrophages.
J Immunol, **139**, 4096-101.
- Cherwinski H.M., Schumacher J.H., Brown K.D. & Mosmann T.R. (1987)
Two types of mouse helper T cell clone. III. Further differences in lymphokine synthesis between Th1 and Th2 clones revealed by RNA hybridization, functionally monospecific bioassays, and monoclonal antibodies.
J Exp Med, **166**, 1229-44.
- Chomczynski P. & Sacchi N. (1987)
Single-step method of RNA isolation by acid guanidinium thiocyanate-phenol-chloroform extraction.
Anal Biochem, **162**, 156-9.
- Clare J.J., Rayment F.B., Ballantine S.P., Sreekrishna K. & Romanos M.A. (1991a)
High-level expression of tetanus toxin fragment C in *Pichia pastoris* strains containing multiple tandem integrations of the gene.
Biotechnology (N Y), **9**, 455-60.
- Clare J.J., Romanos M.A., Rayment F.B., Rowedder J.E., Smith M.A., Payne M.M., Sreekrishna K. & Henwood C.A. (1991b)
Production of mouse epidermal growth factor in yeast: high-level secretion using *Pichia pastoris* strains containing multiple gene copies.
Gene, **105**, 205-12.
- Clark E.A. & Ledbetter J.A. (1994)
How B and T cells talk to each other.
Nature, **367**, 425-8.
- Coffman R.L. & Carty J. (1986)
A T cell activity that enhances polyclonal IgE production and its inhibition by interferon-gamma.
J Immunol, **136**, 949-54.

- Coffman R.L., Ohara J., Bond M.W., Carty J., Zlotnik A. & Paul W.E. (1986)
B cell stimulatory factor-1 enhances the IgE response of lipopolysaccharide-activated B cells.
J Immunol, **136**, 4538-41.
- Conrad D.H., Waldschmidt T.J., Lee W.T., Rao M., Keegan A.D., Noelle R.J., Lynch R.G. & Kehry M.R. (1987)
Effect of B cell stimulatory factor-1 (interleukin 4) on Fc epsilon and Fc gamma receptor expression on murine B lymphocytes and B cell lines.
J Immunol, **139**, 2290-6.
- Coutinho A. & Forni L. (1982)
Intraclonal diversification in immunoglobulin isotype secretion: an analysis of switch probabilities.
Embo J, **1**, 1251-7.
- Crawford R.M., Finbloom D.S., Ohara J., Paul W.E. & Meltzer M.S. (1987)
B cell stimulatory factor-1 (interleukin 4) activates macrophages for increased tumoricidal activity and expression of Ia antigens.
J Immunol, **139**, 135-41.
- Cregg J.M., Tschopp J.F., Stillman C., Siegel R., Akong M., Craig W.S., Buckholz R.G., Madden K.R., Kellaris P.A., Davis G.R., Smiley B.L., Cruze J., Torregrossa R., Velicelebi G. & Thill G.P. (1987)
High-level expression and efficient assembly of hepatitis B surface antigen in the methylotrophic yeast, *pichia pastoris*.
Bio/Technology, **5**, 479-485.
- Crosier K.E., Wong G.G., Mathey-Prevot B., Nathan D.G. & Sieff C.A. (1991)
A functional isoform of the human granulocyte/macrophage colony-stimulating factor receptor has an unusual cytoplasmic domain.
Proc Natl Acad Sci U S A, **88**, 7744-8.
- Cumberbatch M. & Kimber I. (1992)
Dermal tumour necrosis factor-alpha induces dendritic cell migration to draining lymph nodes, and possibly provides one stimulus for Langerhans' cell migration.
Immunology, **75**, 257-63.
- De Smedt T., Pajak B., Muraille E., Lespagnard L., Heinen E., De Baetselier P., Urbain J., Leo O. & Moser M. (1996)
Regulation of dendritic cell numbers and maturation by lipopolysaccharide in vivo.
J Exp Med, **184**, 1413-24.
- Deblaere R., Bytebier B., De Greve H., Deboek F., Schell J., Van Montagu M. & Leemans J. (1985)
Efficient octopine Ti-plasmide derived vectors for *Agrobacterium*-mediated gene transfer to plants.
Nucleic Acids Research, **13**, 4777-4788.

- Defrance T., Aubry J.P., Rousset F., Vanbervliet B., Bonnefoy J.Y., Arai N., Takebe Y., Yokota T., Lee F. & Arai K. (1987)
Human recombinant interleukin 4 induces Fc epsilon receptors (CD23) on normal human B lymphocytes.
J Exp Med, **165**, 1459-67.
- Deghiantoni G., Murphy M., Kobayashi M., Francis M.K., Perussia B. & Trinchieri G. (1985)
Natural killer (NK) cell-derived hematopoietic colony-inhibiting activity and NK cytotoxic factor. Relationship with tumor necrosis factor and synergism with immune interferon.
J Exp Med, **162**, 1512-30.
- DeGrado W.F., Wasserman Z.R. & Chowdhry V. (1982)
Sequence and structural homologies among type I and type II interferons.
Nature, **300**, 379-81.
- Demetri G.D. & Griffin J.D. (1991)
Granulocyte colony-stimulating factor and its receptor.
Blood, **78**, 2791-808.
- Dhodapkar M.V., Steinman R.M., Krasovsky J., Munz C. & Bhardwaj N. (2001)
Antigen-specific inhibition of effector T cell function in humans after injection of immature dendritic cells.
J Exp Med, **193**, 233-8.
- Dohmann K., Wagner B., Horohov D.W. & Leibold W. (2000)
Expression and characterisation of equine interleukin 2 and interleukin 4.
Vet Immunol Immunopathol, **77**, 243-56.
- Döcke W.D., Randow F., Syrbe U., Krausch D., Asadullah K., Reinke P., Volk H.D. & Kox W. (1997)
Monocyte deactivation in septic patients: restoration by IFN-gamma treatment.
Nat Med, **3**, 678-81.
- Dranoff G., Crawford A.D., Sadelain M., Ream B., Rashid A., Bronson R.T., Dickersin G.R., Bachurski C.J., Mark E.L., Whitsett J.A. & et al. (1994)
Involvement of granulocyte-macrophage colony-stimulating factor in pulmonary homeostasis.
Science, **264**, 713-6.
- Düring K., Hippe S., Kreuzaler F. & Schell J. (1990)
Synthesis and self-assembly of a functional monoclonal antibody in transgenic *Nicotiana tabacum*.
Plant Mol Biol, **15**, 281-93.
- Dürrwald R. & Ludwig H. (1997)
Borna disease virus (BDV), a (zoonotic?) worldwide pathogen. A review of the history of the disease and the virus infection with comprehensive bibliography.
Zentralbl Veterinarmed [B], **44**, 147-84.

- Eckart M.R. & Bussineau C.M. (1996)
Quality and authenticity of heterologous proteins synthesized in yeast.
Curr Opin Biotechnol, **7**, 525-30.
- Enk A.H., Angeloni V.L., Udey M.C. & Katz S.I. (1993a)
An essential role for Langerhans cell-derived IL-1 beta in the initiation of primary immune responses in skin.
J Immunol, **150**, 3698-704.
- Enk A.H., Angeloni V.L., Udey M.C. & Katz S.I. (1993b)
Inhibition of Langerhans cell antigen-presenting function by IL-10. A role for IL-10 in induction of tolerance.
J Immunol, **151**, 2390-8.
- Estes D.M., Hirano A., Heussler V.T., Dobbelaere D.A. & Brown W.C. (1995)
Expression and biological activities of bovine interleukin 4: effects of recombinant bovine interleukin 4 on T cell proliferation and B cell differentiation and proliferation in vitro.
Cell Immunol, **163**, 268-79.
- Farrar M.A. & Schreiber R.D. (1993)
The molecular cell biology of interferon-gamma and its receptor.
Annu Rev Immunol, **11**, 571-611.
- Filgueira L., Nestle F.O., Rittig M., Joller H.I. & Groscurth P. (1996)
Human dendritic cells phagocytose and process *Borrelia burgdorferi*.
J Immunol, **157**, 2998-3005.
- Finkelman F.D., Ohara J., Goroff D.K., Smith J., Villacreses N., Mond J.J. & Paul W.E. (1986)
Production of BSF-1 during an in vivo, T-dependent immune response.
J Immunol, **137**, 2878-85.
- Finkelman F.D., Katona I.M., Mosmann T.R. & Coffman R.L. (1988)
IFN-gamma regulates the isotypes of Ig secreted during in vivo humoral immune responses.
J Immunol, **140**, 1022-7.
- Fong L. & Engleman E.G. (2000)
Dendritic cells in cancer immunotherapy.
Annu Rev Immunol, **18**, 245-73.
- Freudenthal P.S. & Steinman R.M. (1990)
The distinct surface of human blood dendritic cells, as observed after an improved isolation method.
Proc Natl Acad Sci U S A, **87**, 7698-702.
- Freundlich B., Jimenez S.A., Steen V.D., Medsger T.A., Jr., Szkolnicki M. & Jaffe H.S. (1992)
Treatment of systemic sclerosis with recombinant interferon-gamma. A phase I/II clinical trial.
Arthritis Rheum, **35**, 1134-42.

- Fugier-Vivier I., Servet-Delprat C., Rivaller P., Rissoan M.C., Liu Y.J. & Roubourdin-Combe C. (1997)
Measles virus suppresses cell-mediated immunity by interfering with the survival and functions of dendritic and T cells.
J Exp Med, **186**, 813-23.
- Gasson J.C., Weisbart R.H., Kaufman S.E., Clark S.C., Hewick R.M., Wong G.G. & Golde D.W. (1984)
Purified human granulocyte-macrophage colony-stimulating factor: direct action on neutrophils.
Science, **226**, 1339-42.
- Gerhartz H.H., Engelhard M., Meusers P., Brittinger G., Wilmanns W., Schlimok G., Mueller P., Huhn D., Musch R., Siegert W. et al. (1993)
Randomized, double-blind, placebo-controlled, phase III study of recombinant human granulocyte-macrophage colony-stimulating factor as adjunct to induction treatment of high-grade malignant non-Hodgkin's lymphomas.
Blood, **82**, 2329-39.
- Gough N.M., Gough J., Metcalf D., Kelso A., Grail D., Nicola N.A., Burgess A.W. & Dunn A.R. (1984)
Molecular cloning of cDNA encoding a murine haematopoietic growth regulator, granulocyte-macrophage colony stimulating factor.
Nature, **309**, 763-7.
- Graf D., Korthäuer U., Mages H.W., Senger G. & Kroczeck R.A. (1992)
Cloning of TRAP, a ligand for CD40 on human T cells.
Eur J Immunol, **22**, 3191-4.
- Grinna L.S. & Tschopp J.F. (1989)
Size distribution and general structural features of N-linked oligosaccharides from the methylotrophic yeast, *Pichia pastoris*.
Yeast, **5**, 107-15.
- Grünig G., Himmler A. & Antczak D.F. (1994)
Cloning and sequencing of horse interferon-gamma cDNA.
Immunogenetics, **39**, 448-9.
- Gubler U. & Hoffman B.J. (1983)
A simple and very efficient method for generating cDNA libraries.
Gene, **25**, 263-9.
- Hammond S.A., Horohov D. & Montelaro R.C. (1999)
Functional characterization of equine dendritic cells propagated ex vivo using recombinant human GM-CSF and recombinant equine IL-4.
Vet Immunol Immunopathol, **71**, 197-214.
- Hanifin J.M., Schneider L.C., Leung D.Y., Ellis C.N., Jaffe H.S., Izu A.E., Bucalo L.R., Hirabayashi S.E., Tofte S.J., Cantu-Gonzales G., Milgrom H., Boguniewicz M. & Cooper K.D. (1993)
Recombinant interferon gamma therapy for atopic dermatitis.
J Am Acad Dermatol, **28**, 189-97.

- Hart D.N. & McKenzie J.L. (1988)
Isolation and characterization of human tonsil dendritic cells.
J Exp Med, **168**, 157-70.
- Hart D.N., Starling G.C., Calder V.L. & Fernando N.S. (1993)
B7/BB-1 is a leucocyte differentiation antigen on human dendritic cells induced by activation.
Immunology, **79**, 616-20.
- Heath W.R. & Carbone F.R. (2001)
Cross-presentation, dendritic cells, tolerance and immunity.
Annu Rev Immunol, **19**, 47-64.
- Hein M.B., Tang Y., McLeod D.A., Janda K.D. & Hiatt A. (1991)
Evaluation of immunoglobulins from plant cells.
Biotechnol Prog, **7**, 455-61.
- Heinzel F.P., Sadick M.D., Holaday B.J., Coffman R.L. & Locksley R.M. (1989)
Reciprocal expression of interferon gamma or interleukin 4 during the resolution or progression of murine leishmaniasis. Evidence for expansion of distinct helper T cell subsets.
J Exp Med, **169**, 59-72.
- Heiser A., Dahm P., Yancey D.R., Maurice D., Boczkowski D., Nair S.K., Gilboa E. & Vieweg J. (2000)
Human dendritic cells transfected with RNA encoding prostate-specific antigen stimulate prostate-specific CTL responses in vitro.
J Immunol, **164** (10), 5508-14.
- Heiser A., Maurice M.A., Yancey D.R., Wu N.Z., Dahm P., Pruitt S.K., Boczkowski D., Nair S.K., Ballo M.S., Gilboa E. & Vieweg J. (2001)
Induction of polyclonal prostate cancer-specific CTL using dendritic cells transfected with amplified tumor RNA.
J Immunol, **166**, 2953-60.
- Heufler C., Koch F. & Schuler G. (1988)
Granulocyte/macrophage colony-stimulating factor and interleukin 1 mediate the maturation of murine epidermal Langerhans cells into potent immunostimulatory dendritic cells.
J Exp Med, **167**, 700-5.
- Heymer J. (1993)
Immunomodulatorische Wirkung von rec. eq. Interferon b1 sowie Klonierung der DNA von eq. Granulozyten-Kolonie Stimulierenden Faktor (G-CSF).
Dissertation rer nat, Fachbereich Biologie Uni Hannover.
- Higgins D.R. & Cregg J.M. (1998)
Introduction to *Pichia pastoris*.
Methods Mol Biol, **103**, 1-15.

- Hill K.K., Jarvis-Eagan N., Halk E.L., Krahn K.J., Liao L.W., Mathewson R.S., Merlo D.J., Nelson S.E., Rashka K.E. & Loesch-Fries L.S. (1991)
The development of virus-resistant alfalfa, *Medicago sativa* L.
Biotechnology (N Y), **9**, 373-7.
- Himmler A., Hauptmann R., Adolf G.R. & Swetly P. (1986)
Molecular cloning and expression in *Escherichia coli* of equine type I interferons.
DNA, **5**, 345-56.
- Himmler A. & Grünig G. (1997)
The cloning of equine type I and type II interferones. In: *Cytokines in Veterinary Medicine* (ed. V. E. C. J. Schijns & M. C. Horzinek), p. 177-190.
CAB International, Wallingford, UK.
- Hirai T., Oikawa M., Inumaru S., Yokomizo Y., Kusakari N. & Mori K. (1999)
Effects of recombinant bovine granulocyte-macrophage colony-stimulating factor on bovine peripheral blood neutrophil functions in vitro and in vivo.
J Vet Med Sci, **61**, 1249-51.
- Hopkins J., Dutia B.M., Bujdoso R. & McConnell I. (1989)
In vivo modulation of CD1 and MHC class II expression by sheep afferent lymph dendritic cells. Comparison of primary and secondary immune responses.
J Exp Med, **170**, 1303-18.
- Howard M., Farrar J., Hilfiker M., Johnson B., Takatsu K., Hamaoka T. & Paul W.E. (1982)
Identification of a T cell-derived B cell growth factor distinct from interleukin 2.
J Exp Med, **155**, 914-23.
- Howard E.A., Zupan J.R., Citovsky V. & Zambryski P.C. (1992)
The VirD2 protein of *A. tumefaciens* contains a C-terminal bipartite nuclear localization signal: implications for nuclear uptake of DNA in plant cells.
Cell, **68**, 109-18.
- Howard C.J., Brooke G.P., Werling D., Sopp P., Hope J.C., Parsons K.R. & Collins R.A. (1999)
Dendritic cells in cattle: phenotype and function.
Vet Immunol Immunopathol, **72**, 119-24.
- Hu-Li J., Shevach E.M., Mizuguchi J., Ohara J., Mosmann T. & Paul W.E. (1987)
B cell stimulatory factor 1 (interleukin 4) is a potent costimulant for normal resting T lymphocytes.
J Exp Med, **165**, 157-72.
- Inaba K., Schuler G., Witmer M.D., Valinsky J., Atassi B. & Steinman R.M. (1986)
Immunologic properties of purified epidermal Langerhans cells. Distinct requirements for stimulation of unprimed and sensitized T lymphocytes.
J Exp Med, **164**, 605-13.

- Inaba K., Swiggard W.J., Steinman R.M., Romani N. & Schuler G. (1998)
Isolation of dendritic cells. In: *Current Protocols in Immunology* (ed. J. E. Coligan, A. M. Kruisbeek, D. H. Margulies & W. Strober), Vol. 4, p. 3.7.1-3.7.15.
J. Wiley & Sons, Inc.
- Isaacs A. & Lindenmann J. (1957)
Virus interference. I. The interferon.
Proc R Soc Lond., **47**, 258-267.
- Isakson P.C., Pure E., Vitetta E.S. & Krammer P.H. (1982)
T cell-derived B cell differentiation factor(s). Effect on the isotype switch of murine B cells.
J Exp Med, **155**, 734-48.
- Janeway C.A. & Travers P. (1994)
Immunologie.
Spektrum, Akademischer Verlag, Heidelberg.
- Jansen J.H., Wientjens G.J., Fibbe W.E., Willemze R. & Kluin-Nelemans H.C. (1989)
Inhibition of human macrophage colony formation by interleukin 4.
J Exp Med, **170**, 577-82.
- Julius M.H., Simpson E. & Herzenberg L.A. (1973)
A rapid method for the isolation of functional thymus-derived murine lymphocytes.
Eur J Immunol, **3**, 645-9.
- Kabel P.J., de Haan-Meulman M., Voorbij H.A., Kleingeld M., Knol E.F. & Drexhage H.A. (1989)
Accessory cells with a morphology and marker pattern of dendritic cells can be obtained from elutriator-purified blood monocyte fractions. An enhancing effect of metrizamide in this differentiation.
Immunobiology, **179**, 395-41.
- Kang K., Kubin M., Cooper K.D., Lessin S.R., Trinchieri G. & Rook A.H. (1996)
IL-12 synthesis by human Langerhans cells.
J Immunol, **156**, 1402-7.
- Kapila J., De Rycke R., Van Montagu M. & Angenon G. (1996)
An Agrobacterium-mediated transient gene expression system for intact leaves.
Plant Science, **122**, 101-108.
- Kaplan G., Walsh G., Guido L.S., Meyn P., Burkhardt R.A., Abalos R.M., Barker J., Frindt P.A., Fajardo T.T., Celona R. & Cohn Z.A. (1992)
Novel responses of human skin to intradermal recombinant granulocyte/macrophage-colony-stimulating factor: Langerhans cell recruitment, keratinocyte growth, and enhanced wound healing.
J Exp Med, **175**, 1717-28.

- Karasuyama H. & Melchers F. (1988)
Establishment of mouse cell lines which constitutively secrete large quantities of interleukin 2, 3, 4 or 5, using modified cDNA expression vectors. *Eur J Immunol*, **18**, 97-104.
- Karasuyama H., Kudo A. & Melchers F. (1990)
The proteins encoded by the VpreB and lambda 5 pre-B cell-specific genes can associate with each other and with mu heavy chain. *J Exp Med*, **172**, 969-72.
- Kasinrerk W., Baumruker T., Majdic O., Knapp W. & Stockinger H. (1993)
CD1 molecule expression on human monocytes induced by granulocyte-macrophage colony-stimulating factor. *J Immunol*, **150**, 579-84.
- Katz S.I., Tamaki K. & Sachs D.H. (1979)
Epidermal Langerhans cells are derived from cells originating in bone marrow. *Nature*, **282**, 324-6.
- Kaushansky K., Shoemaker S.G., Alfaro S. & Brown C. (1989)
Hematopoietic activity of granulocyte/macrophage colony-stimulating factor is dependent upon two distinct regions of the molecule: functional analysis based upon the activities of interspecies hybrid growth factors. *Proc Natl Acad Sci U S A*, **86**, 1213-7.
- Kearney J.F., Cooper M.D. & Lawton A.R. (1976)
B cell differentiation induced by lipopolysaccharide. IV. Development of immunoglobulin class restriction in precursors of IgG-synthesizing cells. *J Immunol*, **117**, 1567-72.
- Kelker H.C., Yip Y.K., Anderson P. & Vilcek J. (1983)
Effects of glycosidase treatment on the physicochemical properties and biological activity of human interferon-gamma. *J Biol Chem*, **258**, 8010-3.
- Kikutani H., Inui S., Sato R., Barsumian E.L., Owaki H., Yamasaki K., Kaisho T., Uchibayashi N., Hardy R.R. & Hirano T. (1986)
Molecular structure of human lymphocyte receptor for immunoglobulin E. *Cell*, **47**, 657-65.
- Kimura Y., Hase S., Kobayashi Y., Kyogoku Y., Ikenaka T. & Funatsu G. (1988)
Structures of sugar chains of ricin D. *J Biochem (Tokyo)*, **103**, 944-9.
- Klareskog L., Tjernlund U., Forsum U. & Peterson P.A. (1977)
Epidermal Langerhans cells express Ia antigens. *Nature*, **268**, 248-50.
- Klein R.M., Wolf E.D., Wu R. & Sanford J.C. (1992)
High-velocity microprojectiles for delivering nucleic acids into living cells. 1987. *Biotechnology*, **24**, 384-6.

- Koch F., Heufler C., Kämpgen E., Schneeweiss D., Bock G. & Schuler G. (1990)
Tumor necrosis factor alpha maintains the viability of murine epidermal Langerhans cells in culture, but in contrast to granulocyte/macrophage colony-stimulating factor, without inducing their functional maturation.
J Exp Med, **171**, 159-71.
- Kozak M. (1989)
The scanning model for translation: an update.
J Cell Biol, **108**, 229-41.
- Krown S.E. (1987)
Interferon treatment of renal cell carcinoma. Current status and future prospects.
Cancer, **59**, 647-51.
- Kühn R., Rajewsky K. & Müller W. (1991)
Generation and analysis of interleukin-4 deficient mice.
Science, **254**, 707-10.
- Lang R.A., Metcalf D., Cuthbertson R.A., Lyons I., Stanley E., Kelso A., Kannourakis G., Williamson D.J., Klintworth G.K., Gonda T.J. & Dunn A.R. (1987)
Transgenic mice expressing a hemopoietic growth factor gene (GM-CSF) develop accumulations of macrophages, blindness, and a fatal syndrome of tissue damage.
Cell, **51**, 675-86.
- Langerhans P. (1868)
Über die Nerven der menschlichen Haut.
Archiv für pathologische Anatomie und Physiologie und für klinische Medizin, **44**, 325-337.
- Lauener R.P., Goyert S.M., Geha R.S. & Vercelli D. (1990)
Interleukin 4 down-regulates the expression of CD14 in normal human monocytes.
Eur J Immunol, **20**, 2375-81.
- Lemmel E.M., Gaus W. & Hofschneider P.H. (1991)
Multicenter double-blind trial of interferon-gamma versus placebo in the treatment of rheumatoid arthritis.
Arthritis Rheum, **34**, 1621-2.
- Lenschow D.J., Walunas T.L. & Bluestone J.A. (1996)
CD28/B7 system of T cell costimulation.
Annu Rev Immunol, **14**, 233-58.
- Leonard W.J. (1999)
Type I Cytokine and Interferons and their receptors. In: *Fundamental Immunology* (ed. W. E. Paul), 4 edn, p. 741-775.
Lippincott-Raven Press, New York.

- Levine T.P. & Chain B.M. (1992)
Endocytosis by antigen presenting cells: dendritic cells are as endocytically active as other antigen presenting cells.
Proc Natl Acad Sci U S A, **89**, 8342-6.
- Linsley P.S. & Ledbetter J.A. (1993)
The role of the CD28 receptor during T cell responses to antigen.
Annu Rev Immunol, **11**, 191-212.
- Liu X. & Gorovsky M.A. (1993)
Mapping the 5' and 3' ends of *Tetrahymena thermophila* mRNAs using RNA ligase mediated amplification of cDNA ends (RLM-RACE).
Nucleic Acids Res, **21**, 4954-60.
- London C.A., Abbas A.K. & Kelso A. (1998)
Helper T cell subsets: heterogeneity, functions and development.
Vet Immunol Immunopathol, **63**, 37-44.
- Lopez A.F., Shannon M.F., Hercus T., Nicola N.A., Cambareri B., Dottore M., Layton M.J., Eglinton L. & Vadas M.A. (1992)
Residue 21 of human granulocyte-macrophage colony-stimulating factor is critical for biological activity and for high but not low affinity binding.
Embo J, **11**, 909-16.
- Lotze M.T., Shurin M., Davis I., Amoscato A. & Storkus W.J. (1997)
Dendritic cell based therapy of cancer.
Adv Exp Med Biol, **417**, 551-69.
- Lowenthal J.W., Castle B.E., Christiansen J., Schreurs J., Rennick D., Arai N., Hoy P., Takebe Y. & Howard M. (1988)
Expression of high affinity receptors for murine interleukin 4 (BSF-1) on hemopoietic and nonhemopoietic cells.
J Immunol, **140**, 456-64.
- Ludwig H. & Bode L. (2000)
Borna disease virus: new aspects on infection, disease, diagnosis and epidemiology.
Rev Sci Tech, **19**, 259-88.
- Lukaszewicz M., Feuermann M., Jerouville B., Stas A. & Boutry M. (2000)
In vivo evaluation of the context sequence of the translation initiation codon in plants.
Plant Science, **154**, 89-98.
- Macatonia S.E., Hsieh C.S., Murphy K.M. & O'Garra A. (1993a)
Dendritic cells and macrophages are required for Th1 development of CD4+ T cells from alpha beta TCR transgenic mice: IL-12 substitution for macrophages to stimulate IFN-gamma production is IFN-gamma-dependent.
Int Immunol, **5**, 1119-28.

- Macatonia S.E., Doherty T.M., Knight S.C. & O'Garra A. (1993b)
Differential effect of IL-10 on dendritic cell-induced T cell proliferation and IFN-gamma production.
J Immunol, **150**, 3755-65.
- Macatonia S.E., Hosken N.A., Litton M., Vieira P., Hsieh C.S., Culpepper J.A., Wysocka M., Trinchieri G., Murphy K.M. & O'Garra A. (1995)
Dendritic cells produce IL-12 and direct the development of Th1 cells from naive CD4+ T cells.
J Immunol, **154**, 5071-9.
- Machold K.P., Neumann K. & Smolen J.S. (1992)
Recombinant human interferon gamma in the treatment of rheumatoid arthritis: double blind placebo controlled study.
Ann Rheum Dis, **51**, 1039-43.
- MacLennan I.C. (1994)
Germinal centers.
Annu Rev Immunol, **12**, 117-39.
- MacPherson G.G. & Liu L.M. (1999)
Dendritic cells and Langerhans cells in the uptake of mucosal antigens.
Curr Top Microbiol Immunol, **236**, 33-53.
- Magnuson N.S., Linzmaier P.M., Reeves R., An G., HayGlass K. & Lee J.M. (1998)
Secretion of biologically active human interleukin-2 and interleukin-4 from genetically modified tobacco cells in suspension culture.
Protein Expr Purif, **13**, 45-52.
- Manz M.G., Traver D., Miyamoto T., Weissman I.L. & Akashi K. (2001)
Dendritic cell potentials of early lymphoid and myeloid progenitors.
Blood, **97**, 3333-41.
- Marquardt J., Heymer J., Heinz H., Deegen E., Adolf G.R. & Leibold W. (1992)
Monitoring of effects induced by recombinant equine interferon-beta 1 in whole blood and separated fractions of peripheral blood of horses.
Zentralbl Veterinarmed [B], **39**, 327-36.
- Marsters S.A., Pennica D., Bach E., Schreiber R.D. & Ashkenazi A. (1995)
Interferon g signals via a high-affinity multisubunit receptor complex that contains two types of polypeptide chain.
Proc Natl Acad Sci USA, **92**, 5401-5405.
- Matsuguchi T., Zhao Y., Lilly M.B. & Kraft A.S. (1997)
The cytoplasmic domain of granulocyte-macrophage colony-stimulating factor (GM-CSF) receptor alpha subunit is essential for both GM-CSF-mediated growth and differentiation.
J Biol Chem, **272**, 17450-9.
- Matzinger P. (1994)
Tolerance, danger, and the extended family.
Annu Rev Immunol, **12**, 991-1045.

- Mauel, S. & Steinbach, F. (2000)
Cloning of eq.GM-CSF and eq.IL-4 as prerequisites for immunomodulatory approaches in horses.
EFIS Symposium on Infectious Immunity & Vaccines, Kazimierz Dolny, 21.-22.09.2000
- Mayordomo J.I., Zorina T., Storkus W.J., Zitvogel L., Celluzzi C., Falo L.D., Melief C.J., Ildstad S.T., Kast W.M., Deleo A.B. & Lotze M.T. (1995)
Bone marrow-derived dendritic cells pulsed with synthetic tumour peptides elicit protective and therapeutic antitumour immunity.
Nat Med, **1**, 1297-302.
- Mayordomo J.I., Loftus D.J., Sakamoto H., De Cesare C.M., Appasamy P.M., Lotze M.T., Storkus W.J., Appella E. & DeLeo A.B. (1996)
Therapy of murine tumors with p53 wild-type and mutant sequence peptide-based vaccines.
J Exp Med, **183**, 1357-65.
- McInnes A. & Rennick D.M. (1988)
Interleukin 4 induces cultured monocytes/macrophages to form giant multinucleated cells.
J Exp Med, **167**, 598-611.
- McKeever D.J., MacHugh N.D., Goddeeris B.M., Awino E. & Morrison W.I. (1991)
Bovine afferent lymph veiled cells differ from blood monocytes in phenotype and accessory function.
J Immunol, **147**, 3703-9.
- McKnight A.J. & Classon B.J. (1992)
Biochemical and immunological properties of rat recombinant interleukin- 2 and interleukin-4.
Immunology, **75**, 286-92.
- Meunier L., Gonzalez-Ramos A. & Cooper K.D. (1993)
Heterogeneous populations of class II MHC+ cells in human dermal cell suspensions. Identification of a small subset responsible for potent dermal antigen-presenting cell activity with features analogous to Langerhans cells.
J Immunol, **151**, 4067-80.
- Meyer H., Thein P. & Hubert P. (1987)
Characterization of two equine herpesvirus (EHV) isolates associated with neurological disorders in horses.
Zentralbl Veterinarmed [B], **34**, 545-8.
- Misery L., Campos L., Dezutter-Dambuyant C., Guyotat D., Treille D., Schmitt D. & Thivolet J. (1992)
CD1-reactive leukemic cells in bone marrow: presence of Langerhans cell marker on leukemic monocytic cells.
Eur J Haematol, **48**, 27-32.

- Moore M.W., Carbone F.R. & Bevan M.J. (1988)
Introduction of soluble protein into the class I pathway of antigen processing and presentation.
Cell, **54**, 777-85.
- Moore M.A. (1991)
The clinical use of colony stimulating factors.
Annu Rev Immunol, **9**, 159-91.
- Morris J., Alaibac M., Jia M.H. & Chu T. (1992)
Purification of functional active epidermal Langerhans cells: a simple and efficient new technique.
J Invest Dermatol, **99**, 237-40.
- Mosmann T.R., Cherwinski H., Bond M.W., Giedlin M.A. & Coffman R.L. (1986)
Two types of murine helper T cell clone. I. Definition according to profiles of lymphokine activities and secreted proteins.
J Immunol, **136**, 2348-57.
- Munro S. & Pelham H.R. (1987)
A C-terminal signal prevents secretion of luminal ER proteins.
Cell, **48**, 899-907.
- Nair S.K., Heiser A., Boczkowski D., Majumdar A., Naoe M., Lebkowski J.S., Vieweg J. & Gilboa E. (2000)
Induction of cytotoxic T cell responses and tumor immunity against unrelated tumors using telomerase reverse transcriptase RNA transfected dendritic cells.
Nat Med, **6**, 1011-7.
- Nakanishi K., Yoshimoto T., Tsutsui H. & Okamura H. (2001)
Interleukin-18 regulates both Th1 and Th2 responses.
Annu Rev Immunol, **19**, 423-74.
- Nash R.A., Schuening F.G., Seidel K., Appelbaum F.R., Boone T., Deeg H.J., Graham T.C., Hackman R., Sullivan-Pepe M. & Storb R. (1994)
Effect of recombinant canine granulocyte-macrophage colony-stimulating factor on hematopoietic recovery after otherwise lethal total body irradiation.
Blood, **83**, 1963-70.
- Nash A.A. (1996)
Immunity to Viruses, 4 edn.
Mosby Verlag London, London.
- Naylor S.L., Sakaguchi A.Y., Shows T.B., Law M.L., Goeddel D.V. & Gray P.W. (1983)
Human immune interferon gene is located on chromosome 12.
J Exp Med, **157**, 1020-7.
- Neefjes J.J. & Ploegh H.L. (1992)
Intracellular transport of MHC class II molecules.
Immunol Today, **13**, 179-84.

- Nestlé F.O., Alijagic S., Gilliet M., Sun Y., Grabbe S., Dummer R., Burg G. & Schadendorf D. (1998)
Vaccination of melanoma patients with peptide- or tumor lysate-pulsed dendritic cells.
Nat Med, **4**, 328-32.
- Nestlé F.O., Banchereau J. & Hart D. (2001)
Dendritic cells: On the move from bench to bedside.
Nat Med, **7**, 761-5.
- Noelle R., Krammer P.H., Ohara J., Uhr J.W. & Vitetta E.S. (1984)
Increased expression of Ia antigens on resting B cells: an additional role for B-cell growth factor.
Proc Natl Acad Sci U S A, **81**, 6149-53.
- Nussenzweig M.C., Steinman R.M., Gutchinov B. & Cohn Z.A. (1980)
Dendritic cells are accessory cells for the development of anti- trinitrophenyl cytotoxic T lymphocytes.
J Exp Med, **152**, 1070-84.
- Ohara J., Coligan J.E., Zoon K., Maloy W.L. & Paul W.E. (1987)
High-efficiency purification and chemical characterization of B cell stimulatory factor-1/interleukin 4.
J Immunol, **139**, 1127-34.
- Ohara J. & Paul W.E. (1987)
Receptors for B-cell stimulatory factor-1 expressed on cells of haematopoietic lineage.
Nature, **325**, 537-40.
- Ohara J. & Paul W.E. (1988)
Up-regulation of interleukin 4/B-cell stimulatory factor 1 receptor expression.
Proc Natl Acad Sci U S A, **85**, 8221-5.
- Okayama H. & Berg P. (1992)
High-efficiency cloning of full-length cDNA. 1982.
Biotechnology, **24**, 210-9.
- Onions D. (1991)
Equine herpesvirus: new approaches to an old problem.
Equine Vet J, **23**, 6-7.
- Ostlund E.N., Allen G.P., Yeargan M.R., Coogle L.D., Plowright W.E., Rosedale P.E. & Wade J.F. (1991)
The antibody response of horses to specific antigenic domains on equid herpesvirus-1 glycoproteins B and C. *Equine Infectious Diseases VI: Proceedings of the Sixth International Conference*.
- Paillet R., Laval F., Audonnet J.C., Andreoni C. & Juillard V. (2001)
Functional and phenotypic characterization of distinct porcine dendritic cells derived from peripheral blood monocytes.
Immunology, **102**, 396-404.

- Paul W.E. & Ohara J. (1987)
B-cell stimulatory factor-1/interleukin 4.
Annu Rev Immunol, **5**, 429-59.
- Paul W.E. (1991)
Interleukin-4: a prototypic immunoregulatory lymphokine.
Blood, **77**, 1859-70.
- Pena-Cruz V., Ito S., Oukka M., Yoneda K., Dascher C.C., Von Lichtenberg F. & Sugita M. (2001)
Extraction of human Langerhans cells: a method for isolation of epidermis-resident dendritic cells.
J Immunol Methods, **255**, 83-91.
- Perlman D. & Halvorson H.O. (1983)
A putative signal peptidase recognition site and sequence in eukaryotic and prokaryotic signal peptides.
J Mol Biol, **167**, 391-409.
- Pestka S., Langer J.A., Zoon K.C. & Samuel C.E. (1987)
Interferons and their actions.
Annu Rev Biochem, **56**, 727-77.
- Peters J.H., Ruhl S. & Friedrichs D. (1987)
Veiled accessory cells deduced from monocytes.
Immunobiology, **176**, 154-66.
- Peters J.H., Gieseler R., Thiele B. & Steinbach F. (1996)
Dendritic cells: from ontogenetic orphans to myelomonocytic descendants.
Immunol Today, **17**, 273-278.
- Petzelbauer P., Fodinger D., Rappersberger K., Volc-Platzer B. & Wolff K. (1993)
CD68 positive epidermal dendritic cells.
J Invest Dermatol, **101**, 256-61.
- Pickl W.F., Majdic O., Kohl P., Stockl J., Riedl E., Scheinecker C., Bello-Fernandez C. & Knapp W. (1996)
Molecular and functional characteristics of dendritic cells generated from highly purified CD14⁺ peripheral blood monocytes.
J Immunol, **157**, 3850-9.
- Plaut M., Pierce J.H., Watson C.J., Hanley-Hyde J., Nordan R.P. & Paul W.E. (1989)
Mast cell lines produce lymphokines in response to cross-linkage of Fc epsilon RI or to calcium ionophores.
Nature, **339**, 64-7.
- Porcelli S., Morita C.T. & Brenner M.B. (1992)
CD1b restricts the response of human CD4-8- T lymphocytes to a microbial antigen.
Nature, **360**, 593-7.

- Raven N. (1999)
Vergleichende Expression rekombinanter Einzelketten-Antikörper (scFv) in *E. coli*, *P. pastoris* und Pflanzenzellen.
Diplomarbeit, RWTH Aachen.
- Reichel R.P., Fitz R., Neumann R., Pohl-Markl H., Pichler E., Hoffer Z. & Budiman R. (1992)
Clinical study with recombinant interferon gamma versus interferon alpha-2c in patients with condylomata acuminata.
Int J STD AIDS, **3**, 350-4.
- Reid C.D., Stackpoole A., Meager A. & Tikerpae J. (1992)
Interactions of tumor necrosis factor with granulocyte-macrophage colony-stimulating factor and other cytokines in the regulation of dendritic cell growth in vitro from early bipotent CD34+ progenitors in human bone marrow.
J Immunol, **149**, 2681-8.
- Reis e Sousa C., Stahl P.D. & Austyn J.M. (1993)
Phagocytosis of antigens by Langerhans cells in vitro.
J Exp Med, **178**, 509-19.
- Renjifo X., Howard C., Kerkhofs P., Denis M., Urbain J., Moser M. & Pastoret P.P. (1997)
Purification and characterization of bovine dendritic cells from peripheral blood.
Vet Immunol Immunopathol, **60**, 77-88.
- Reynolds E.S. (1963)
The use of lead citrate at high pH as an electron-opaque stain in electron microscopy.
J Cell Biol, **17**, 208-212.
- Rittig M.G., Burmester G.R. & Krause A. (1998)
Coiling phagocytosis: when the zipper jams, the cup is deformed.
Trends Microbiol, **6**, 384-8.
- Rock K.L. (1996)
A new foreign policy: MHC class I molecules monitor the outside world.
Immunol Today, **17**, 131-7.
- Roitt I., Brostoff J. & Male D. (2001)
Immunologie, 6 edn.
Mosby, Edinburgh.
- Romani N., Koide S., Crowley M., Witmer-Pack M., Livingstone A.M., Fathman C.G., Inaba K. & Steinman R.M. (1989a)
Presentation of exogenous protein antigens by dendritic cells to T cell clones. Intact protein is presented best by immature, epidermal Langerhans cells.
J Exp Med, **169**, 1169-78.

- Romani N., Lenz A., Glassel H., Stossel H., Stanzl U., Majdic O., Fritsch P. & Schuler G. (1989b)
Cultured human Langerhans cells resemble lymphoid dendritic cells in phenotype and function.
J Invest Dermatol, **93**, 600-9.
- Romani N., Kampgen E., Koch F., Heufler C. & Schuler G. (1990)
Dendritic cell production of cytokines and responses to cytokines.
Int Rev Immunol, **6**, 151-61.
- Romeis B. (1989)
Mikroskopische Technik, 17 edn.
Verlag Urban & Schwarzenberg, München, Wien, Baltimore.
- Rossi G., Heveker N., Thiele B., Gelderblom H. & Steinbach F. (1992)
Development of a Langerhans cell phenotype from peripheral blood monocytes.
Immunol Lett, **31**, 189-97.
- Rowden G., Lewis M.G. & Sullivan A.K. (1977)
Ia antigen expression on human epidermal Langerhans cells.
Nature, **268**, 247-8.
- Rubin B.Y. & Gupta S.L. (1980)
Differential efficacies of human type I and type II interferons as antiviral and antiproliferative agents.
Proc Natl Acad Sci U S A, **77**, 5928-32.
- Ruppert J., Friedrichs D., Xu H. & Peters J.H. (1991)
IL-4 decreases the expression of the monocyte differentiation marker CD14, paralleled by an increasing accessory potency.
Immunobiology, **182**, 449-64.
- Sallusto F. & Lanzavecchia A. (1994)
Efficient presentation of soluble antigen by cultured human dendritic cells is maintained by granulocyte/macrophage colony-stimulating factor plus interleukin 4 and downregulated by tumor necrosis factor alpha.
J Exp Med, **179**, 1109-18.
- Sallusto F., Cella M., Danieli C. & Lanzavecchia A. (1995)
Dendritic cells use macropinocytosis and the mannose receptor to concentrate macromolecules in the major histocompatibility complex class II compartment: downregulation by cytokines and bacterial products.
J Exp Med, **182**, 389-400.
- Sallusto F. & Lanzavecchia A. (1999)
Mobilizing dendritic cells for tolerance, priming, and chronic inflammation.
J Exp Med, **189**, 611-4.

- Santiago-Schwarz F., Belilos E., Diamond B. & Carsons S.E. (1992)
TNF in combination with GM-CSF enhances the differentiation of neonatal cord blood stem cells into dendritic cells and macrophages.
J Leukoc Biol, **52**, 274-81.
- Schijns V.E. & Horzinek M.C. (1997)
Cytokines in Veterinary Medicine.
Cab International, Wallingford, Uk.
- Schnorr J.J., Xanthakos S., Keikavoussi P., Kampgen E., ter Meulen V. & Schneider-Schaulies S. (1997)
Induction of maturation of human blood dendritic cell precursors by measles virus is associated with immunosuppression.
Proc Natl Acad Sci U S A, **94**, 5326-31.
- Schrader J.W. (1986)
The panspecific hemopoietin of activated T lymphocytes (interleukin-3).
Annu Rev Immunol, **4**, 205-30.
- Schuler G. & Steinman R.M. (1985)
Murine epidermal Langerhans cells mature into potent immunostimulatory dendritic cells in vitro.
J Exp Med, **161**, 526-46.
- Schuler G. & Steinman R.M. (1997)
Dendritic cells as adjuvants for immune-mediated resistance to tumors.
J Exp Med, **186**, 1183-7.
- Schütt C. & Schumann R. (1993)
The endotoxin receptor CD14.
Immun Infekt, **21**, 36-40.
- Scorer C.A., Clare J.J., McCombie W.R., Romanos M.A. & Sreekrishna K. (1994)
Rapid selection using G418 of high copy number transformants of *Pichia pastoris* for high-level foreign gene expression.
Biotechnology (N Y), **12**, 181-4.
- Scott-Taylor T.H., Pettengell R., Clarke I., Stuhler G., La Barthe M.C., Walden P. & Dalglish A.G. (2000)
Human tumour and dendritic cell hybrids generated by electrofusion: potential for cancer vaccines.
Biochim Biophys Acta, **1500**, 265-79.
- See Y.P. & Jackowski G. (1988)
Protein Structure: A Practical Approach. 2 edn.
Oxford University Press, Oxford.
- Seeburg P.H., Colby W.W., Capon D.J., Goeddel D.V. & Levinson A.D. (1984)
Biological properties of human c-Ha-ras1 genes mutated at codon 12.
Nature, **312**, 71-5.

- Shaw G. & Kamen R. (1986)
A conserved AU sequence from the 3' untranslated region of GM-CSF mRNA mediates selective mRNA degradation.
Cell, **46**, 659-67.
- Siedek E., Little S., Mayall S., Edington N. & Hamblin A. (1997)
Isolation and characterisation of equine dendritic cells.
Vet Immunol Immunopathol, **60**, 15-31.
- Siedek E.M., Whelan M., Edington N. & Hamblin A. (1999)
Equine herpesvirus type 1 infects dendritic cells in vitro: stimulation of T lymphocyte proliferation and cytotoxicity by infected dendritic cells.
Vet Immunol Immunopathol, **67**, 17-32.
- Silberberg-Sinakin I., Thorbecke G.J., Baer R.L., Rosenthal S.A. & Berezowsky V. (1976)
Antigen-bearing langerhans cells in skin, dermal lymphatics and in lymph nodes.
Cell Immunol, **25**, 137-51.
- Slater, J.D., Baxi, M., Tewari, D., Gibson, J.S., Field, H.J., Ludwig, H., Steinbach, F. & K. Borchers, 1994
Experimental infection of specific pathogen-free ponies with equid herpesvirus-1: detection of infectious virus and viral DNA.
Equine Inf Dis **VII**, 255-260
- Snapper C.M. & Paul W.E. (1987)
Interferon-gamma and B cell stimulatory factor-1 reciprocally regulate Ig isotype production.
Science, **236**, 944-7.
- Snapper C.M., Peschel C. & Paul W.E. (1988)
IFN-gamma stimulates IgG2a secretion by murine B cells stimulated with bacterial lipopolysaccharide.
J Immunol, **140**, 2121-7.
- Spiegel H. (1998)
Cytoplasmatische Expression von Antikörperperforationsproteinen in Pflanzenzellen.
Diplomarbeit, RWTH Aachen.
- Spry C.J., Pflug A.J., Janossy G. & Humphrey J.H. (1980)
Large mononuclear (veiled) cells like 'Ia-like' membrane antigens in human afferent lymph.
Clin Exp Immunol, **39**, 750-5.
- Stachel S.E. & Zambryski P.C. (1986)
Agrobacterium tumefaciens and the susceptible plant cell: a novel adaptation of extracellular recognition and DNA conjugation.
Cell, **47**, 155-7.

- Stachel S.E., Timmerman B. & Zambryski P. (1987)
Activation of *Agrobacterium tumefaciens* vir gene expression generates multiple single-stranded T-strand molecules from the pTiA6 T-region: requirement for 5' virD gene products.
Embo J, **6**, 857-63.
- Stanley E., Lieschke G.J., Grail D., Metcalf D., Hodgson G., Gall J.A., Maher D.W., Cebon J., Sinickas V. & Dunn A.R. (1994)
Granulocyte/macrophage colony-stimulating factor-deficient mice show no major perturbation of hematopoiesis but develop a characteristic pulmonary pathology.
Proc Natl Acad Sci U S A, **91**, 5592-6.
- Steinbach F. & Thiele B. (1994)
Phenotypic investigation of mononuclear phagocytes by flow cytometry.
J Immunol Methods, **174**, 109-22.
- Steinbach F., Krause B. & Thiele B. (1995)
Monocyte derived dendritic cells (MODC) present phenotype and functional activities of Langerhans cells/dendritic cells.
Adv Exp Med Biol, **378**, 151-3.
- Steinbach F., Gieseler R., Soruri A., Krause B. & Peters J.H. (1997)
Myeloid DCs deduced from monocytes. In-vitro and in-vivo data support a monocytic origin of DCs.
Adv Exp Med Biol, **417**, 27-32.
- Steinbach F., Rittig M. & Herbst B. (1998a)
Dendritische Zellen- Wächter des Immunsystems.
Target Forum, **2**, 5-13.
- Steinbach F., Krause B., Blass S., Burmester G.R. & Hiepe F. (1998b)
Development of accessory phenotype and function during the differentiation of monocyte-derived dendritic cells.
Res Immunol, **149**, 627-32.
- Steinbach F., Borchers K., Ricciardi-Castagnoli P., Ludwig H., Stingl G. & Elbe-Bürger A. (1998c)
Dendritic cells presenting equine herpesvirus-1 antigens induce protective anti-viral immunity.
J Gen Virol, **79**, 3005-14.
- Steinbach, F., Mauel, S. & Beier, I. (2002)
Recombinant equine interferons: expression cloning and biological activity
Vet Immunol Immunopathol, **84**, 83-95.
- Steinman R.M. & Cohn Z.A. (1973)
Identification of a novel cell type in peripheral lymphoid organs of mice. I. Morphology, quantitation, tissue distribution.
J Exp Med, **137**, 1142-62.

- Steinman R.M. (1991)
The dendritic cell system and its role in immunogenicity.
Annu Rev Immunol, **9**, 271-96.
- Stingl G., Wolff-Schreiner E.C., Pichler W.J., Gschnait F., Knapp W. & Wolff K. (1977)
Epidermal Langerhans cells bear Fc and C3 receptors.
Nature, **268**, 245-6.
- Stingl G., Katz S.I., Shevach E.M., Wolff-Schreiner E. & Green I. (1978)
Detection of Ia antigens on Langerhans cells in guinea pig skin.
J Immunol, **120**, 570-8.
- Stuart P.M., Zlotnik A. & Woodward J.G. (1988)
Induction of class I and class II MHC antigen expression on murine bone marrow-derived macrophages by IL-4 (B cell stimulatory factor 1).
J Immunol, **140**, 1542-7.
- Studdert M.J. (1983)
Restriction endonuclease DNA fingerprinting of respiratory, foetal and perinatal foal isolates of equine herpesvirus type 1.
Arch Virol, **77**, 249-58.
- Sturm A., Van Kuik J.A., Vliegenthart J.F. & Chrispeels M.J. (1987)
Structure, position, and biosynthesis of the high mannose and the complex oligosaccharide side chains of the bean storage protein phaseolin.
J Biol Chem, **262**, 13392-403.
- Tepper R.I., Levinson D.A., Stanger B.Z., Campos-Torres J., Abbas A.K. & Leder P. (1990)
IL-4 induces allergic-like inflammatory disease and alters T cell development in transgenic mice.
Cell, **62**, 457-67.
- Teyton L., O'Sullivan D., Dickson P.W., Lotteau V., Sette A., Fink P. & Peterson P.A. (1990)
Invariant chain distinguishes between the exogenous and endogenous antigen presentation pathways.
Nature, **348**, 39-44.
- Thein P. & Steinbach F. (2000)
Borna disease virus infection in horses: early clinical and intravital diagnosis.
1st UK Meeting on Borna Disease, 23.-24.03.2000, Trehafod, Wales.
- Timmerman J.M. & Levy R. (1999)
Dendritic cell vaccines for cancer immunotherapy.
Annu Rev Med, **50**, 507-29.

- Trefzer U., Weingart G., Chen Y., Herberth G., Adrian K., Winter H., Audring H., Guo Y., Sterry W. & Walden P. (2000)
Hybrid cell vaccination for cancer immune therapy: first clinical trial with metastatic melanoma.
Int J Cancer, **85**, 618-26.
- Trenn G., Takayama H., Hu-Li J., Paul W.E. & Sitkovsky M.V. (1988)
B cell stimulatory factor 1 (IL-4) enhances the development of cytotoxic T cells from Lyt-2+ resting murine T lymphocytes.
J Immunol, **140**, 1101-6.
- van den Broek M.F., Muller U., Huang S., Zinkernagel R.M. & Aguet M. (1995)
Immune defence in mice lacking type I and/or type II interferon receptors.
Immunol Rev, **148**, 5-18.
- van Leeuwen B.H., Martinson M.E., Webb G.C. & Young I.G. (1989)
Molecular organization of the cytokine gene cluster, involving the human IL-3, IL-4, IL-5, and GM-CSF genes, on human chromosome 5.
Blood, **73**, 1142-8.
- van Voorhis W.C., Hair L.S., Steinman R.M. & Kaplan G. (1982)
Human dendritic cells. Enrichment and characterization from peripheral blood.
J Exp Med, **155**, 1172-87.
- van Voorhis W.C., Valinsky J., Hoffman E., Luban J., Hair L.S. & Steinman R.M. (1983)
Relative efficacy of human monocytes and dendritic cells as accessory cells for T cell replication.
J Exp Med, **158**, 174-91.
- Vandergriff E.V., Swiderski C.E. & Horohov D.W. (1994)
Molecular cloning and sequencing of equine interleukin 4.
Vet Immunol Immunopathol, **40**, 379-84.
- Vecchione A., Catchpole B. & Hamblin A. (2001)
Modulating immune responses with dendritic cells; an attainable goal in veterinary medicine? In: *6 th IVIS July 15-20, 2001* (ed. C. Fossum, E. Wattrang & G. V. Alm). International Union of Immunological Societies, Uppsala, Sweden.
- Vitetta E.S., Ohara J., Myers C.D., Layton J.E., Krammer P.H. & Paul W.E. (1985)
Serological, biochemical, and functional identity of B cell-stimulatory factor 1 and B cell differentiation factor for IgG1.
J Exp Med, **162**, 1726-31.
- von Heijne G. (1983)
Patterns of amino acids near signal-sequence cleavage sites.
Eur J Biochem, **133**, 17-21.

- Watts C. (1997)
Capture and processing of exogenous antigens for presentation on MHC molecules.
Annu Rev Immunol, **15**, 821-850.
- Widmer M.B. & Grabstein K.H. (1987)
Regulation of cytolytic T-lymphocyte generation by B-cell stimulatory factor.
Nature, **326**, 795-8.
- Witmer M.D. & Steinman R.M. (1984)
The anatomy of peripheral lymphoid organs with emphasis on accessory cells: light-microscopic immunocytochemical studies of mouse spleen, lymph node, and Peyer's patch.
Am J Anat, **170**, 465-81.
- Witmer-Pack M.D., Olivier W., Valinsky J., Schuler G. & Steinman R.M. (1987)
Granulocyte/macrophage colony-stimulating factor is essential for the viability and function of cultured murine epidermal Langerhans cells.
J Exp Med, **166**, 1484-98.
- Wong G.G., Witek J.S., Temple P.A., Wilkens K.M., Leary A.C., Luxenberg D.P., Jones S.S., Brown E.L., Kay R.M., Orr E.C. & et al. (1985)
Human GM-CSF: molecular cloning of the complementary DNA and purification of the natural and recombinant proteins.
Science, **228**, 810-5.
- Wykes M., Pombo A., Jenkins C. & MacPherson G.G. (1998)
Dendritic cells interact directly with naive B lymphocytes to transfer antigen and initiate class switching in a primary T-dependent response.
J Immunol, **161**, 1313-9.
- Xu D., Trajkovic V., Hunter D., Leung B.P., Schulz K., Gracie J.A., McInnes I.B. & Liew F.Y. (2000)
IL-18 induces the differentiation of Th1 or Th2 cells depending upon cytokine milieu and genetic background.
Eur J Immunol, **30**, 3147-56.
- Yang Y.C., Kovacic S., Kriz R., Wolf S., Clark S.C., Wellems T.E., Nienhuis A. & Epstein N. (1988)
The human genes for GM-CSF and IL 3 are closely linked in tandem on chromosome 5.
Blood, **71**, 958-61.
- Yewdell J.W. & Bennink J.R. (1992)
Cell biology of antigen processing and presentation to major histocompatibility complex class I molecule-restricted T lymphocytes.
Adv Immunol, **52**, 1-123.
- Yip Y.K., Barrowclough B.S., Urban C. & Vilcek J. (1982)
Molecular weight of human gamma interferon is similar to that of other human interferons.
Science, **215**, 411-3.

- Yokota T., Otsuka T., Mosmann T., Banchereau J., DeFrance T., Blanchard D., De Vries J.E., Lee F. & Arai K. (1986)
Isolation and characterization of a human interleukin cDNA clone, homologous to mouse B-cell stimulatory factor 1, that expresses B-cell- and T-cell-stimulating activities.
Proc Natl Acad Sci U S A, **83**, 5894-8.
- Yokota T., Arai N., de Vries J., Spits H., Banchereau J., Zlotnik A., Rennick D., Howard M., Takebe Y., Miyatake S. & et al. (1988)
Molecular biology of interleukin 4 and interleukin 5 genes and biology of their products that stimulate B cells, T cells and hemopoietic cells.
Immunol Rev, **102**, 137-87.
- Yoshimoto T., Takeda K., Tanaka T., Ohkusu K., Kashiwamura S., Okamura H., Akira S. & Nakanishi K. (1998)
IL-12 up-regulates IL-18 receptor expression on T cells, Th1 cells, and B cells: synergism with IL-18 for IFN-gamma production.
J Immunol, **161**, 3400-7.
- Young J.W. & Steinman R.M. (1988)
Accessory cell requirements for the mixed-leukocyte reaction and polyclonal mitogens, as studied with a new technique for enriching blood dendritic cells.
Cell Immunol, **111**, 167-82.
- Young H.A. & Hardy K.J. (1995)
Role of interferon-gamma in immune cell regulation.
J Leukoc Biol, **58**, 373-81.
- Zhou L.J. & Tedder T.F. (1996)
CD14+ blood monocytes can differentiate into functionally mature CD83+ dendritic cells.
Proc Natl Acad Sci U S A, **93**, 2588-92.
- Zitvogel L., Couderc B., Mayordomo J.I., Robbins P.D., Lotze M.T. & Storkus W.J. (1996)
IL-12-engineered dendritic cells serve as effective tumor vaccine adjuvants in vivo.
Ann N Y Acad Sci, **795**, 284-93.
- Zwick W. (1939)
Über die Bornasche Krankheit.
Z Infkrkht Haustiere, **54**, 1-7.