

6 Literaturverzeichnis

1. Hodgkin T. On some morbid appearances of the absorbed glands and spleen.
Med Chir Trans 1832;17:68.
2. Wilks Sir S. *Cases of enlargement of the lymphoic glands and spleen, (or Hodgkin's disease), with remarks*. Guy's Hosp Rep 1865;11:56-67.
3. Reed DM. *On the pathological changes in Hodgkin's disease, with special reference to its relationship to tuberculosis*. Johns Hosp Rep 1902;10:133-196.
4. Sternberg C. *Über eine eigenartig unter dem Bilde einer Pseudoleukämie verlaufende Tuberkulose des lymphatischen Apparates*. Zschr Heilk 1898;19:21-90.
5. Hartge P DSFJ. Hodgkin's and non-Hodgkin's lymphomas. In: Doll R FJMC, ed. Trends in Cancer Incidence and Mortality Cancer Surveys. Cold Spring: Cold Spring Harbor Press; 1994:423-453.
6. Lukes RJ, Butler JJ. The pathology and nomenclature of Hodgkin's disease. *Cancer Res.* 1966;26:1063-1083.
7. Attie E. [Proposal of an international classification of Hodgkin's disease]. *Rev.Med.Moyen.Orient.* 1966;23:200-204.
8. Haluska FG, Brufsky AM, Canellos GP. The cellular biology of the Reed-Sternberg cell [see comments]. *Blood* 1994;84:1005-1019.
9. Pinkus GS, Said JW. Hodgkin's disease, lymphocyte predominance type, nodular--further evidence for a B cell derivation. L & H variants of Reed-Sternberg cells express L26, a pan B cell marker. *Am.J.Pathol.* 1988;133:211-217.

10. Stein H GJLHea. Immunohistological classification of In: Ford RJ FLHFea, ed. MD Anderson Clinical Conference on Cancer: New perspectives in Human Leukemia. Vol 27. New York: Raven Press; 1984:35-47.
11. Drexler HG. Recent results on the biology of Hodgkin and Reed-Sternberg cells. I. Biopsy material. *Leuk.Lymphoma* 1992;8:283-313.
12. Marafioti T, Hummel M, Foss HD et al. Hodgkin and reed-sternberg cells represent an expansion of a single clone originating from a germinal center B-cell with functional immunoglobulin gene rearrangements but defective immunoglobulin transcription. *Blood* 2000;95:1443-1450.
13. Kanzler H, Kuppers R, Hansmann ML, Rajewsky K. Hodgkin and Reed-Sternberg cells in Hodgkin's disease represent the outgrowth of a dominant tumor clone derived from (crippled) germinal center B cells. *J.Exp.Med.* 1996;184:1495-1505.
14. Harris NL, Jaffe ES, Stein H et al. A revised European-American classification of lymphoid neoplasms: a proposal from the International Lymphoma Study Group [see comments]. *Blood* 1994;84:1361-1392.
15. Lukes RJ. Criteria for involvement of lymph node, bone marrow, spleen, and liver in Hodgkin's disease. *Cancer Res.* 1971;31:1755-1767.
16. Buttler JJ. The natural history of hodgkin's desease and its classification. In: Rebuck JW BGAM, ed. The reticuloendothelial system: International Academy of Pathology Monograph No16. Baltimore: Williams and Wilkins; 1975:184-212.
17. Chittal SM, Caveriviere P, Schwarting R et al. Monoclonal antibodies in the diagnosis of Hodgkin's disease. The search for a rational panel. *Am.J.Surg.Pathol.* 1988;12:9-21.

18. Hsu SM, Jaffe ES. Leu M1 and peanut agglutinin stain the neoplastic cells of Hodgkin's disease. *Am.J.Clin.Pathol.* 1984;82:29-32.
19. Pinkus GS, Thomas P, Said JW. Leu-M1--a marker for Reed-Sternberg cells in Hodgkin's disease. An immunoperoxidase study of paraffin-embedded tissues. *Am.J.Pathol.* 1985;119:244-252.
20. Strauchen JA, Dimitriu-Bona A. Immunopathology of Hodgkin's disease. Characterization of Reed- Sternberg cells with monoclonal antibodies. *Am.J.Pathol.* 1986;123:293-300.
21. Casey TT, Olson SJ, Cousar JB, Collins RD. Immunophenotypes of Reed-Sternberg cells: a study of 19 cases of Hodgkin's disease in plastic-embedded sections. *Blood* 1989;74:2624-2628.
22. Ree HJ, Neiman RS, Martin AW, Dallenbach F, Stein H. Paraffin section markers for Reed-Sternberg cells. A comparative study of peanut agglutinin, Leu-M1, LN-2, and Ber-H2. *Cancer* 1989;63:2030-2036.
23. Stein H GJFB. phenotypic and genotypic markers in malignant lymphomas: Cellular origin of Hodgkin and Sternberg-Reed cells and implications for the classification of T-cell and B-cell lymphoma. In: Seifert G HKGF, ed. *Pathology of Cell Receptors and Tumor Markers*. Stuttgart 1987:121-144.
24. Schwab U, Stein H, Gerdes J et al. Production of a monoclonal antibody specific for Hodgkin and Sternberg- Reed cells of Hodgkin's disease and a subset of normal lymphoid cells. *Nature* 1982;299:65-67.
25. Stein H, Gerdes J, Schwab U et al. Identification of Hodgkin and Sternberg-reed cells as a unique cell type derived from a newly-detected small-cell population. *Int.J.Cancer* 1982;30:445-459.

26. Stein H, Mason DY, Gerdes J et al. The expression of the Hodgkin's disease associated antigen Ki-1 in reactive and neoplastic lymphoid tissue: evidence that Reed-Sternberg cells and histiocytic malignancies are derived from activated lymphoid cells. *Blood* 1985;66:848-858.
27. Kuppers R, Zhao M, Hansmann ML, Rajewsky K. Tracing B cell development in human germinal centres by molecular analysis of single cells picked from histological sections. *EMBO J.* 1993;12:4955-4967.
28. Seitz V, Hummel M, Marafioti T et al. Detection of clonal T-cell receptor gamma-chain gene rearrangements in Reed-Sternberg cells of classic Hodgkin disease. *Blood* 2000;95:3020-3024.
29. Sen R, Baltimore D. Multiple nuclear factors interact with the immunoglobulin enhancer sequences. *Cell* 1986;46:705-716.
30. Bargou RC, Leng C, Krappmann D et al. High-level nuclear NF-kappa B and Oct-2 is a common feature of cultured Hodgkin/Reed-Sternberg cells. *Blood* 1996;87:4340-4347.
31. Siebenlist U, Franzoso G, Brown K. Structure, regulation and function of NF-kappa B. *Annu.Rev.Cell Biol.* 1994;10:405-455.
32. Bours V, Franzoso G, Brown K et al. Lymphocyte activation and the family of NF-kappa B transcription factor complexes. *Curr.Top.Microbiol.Immunol.* 1992;182:411-420.
33. Bours V, Burd PR, Brown K et al. A novel mitogen-inducible gene product related to p50/p105-NF-kappa B participates in transactivation through a kappa B site. *Mol.Cell Biol.* 1992;12:685-695.

34. Ryseck RP, Bull P, Takamiya M et al. RelB, a new Rel family transcription activator that can interact with p50-NF-kappa B. *Mol.Cell Biol.* 1992;12:674-684.
35. Ip YT, Reach M, Engstrom Y et al. Dif, a dorsal-related gene that mediates an immune response in *Drosophila*. *Cell* 1993;75:753-763.
36. Steward R. Dorsal, an embryonic polarity gene in *Drosophila*, is homologous to the vertebrate proto-oncogene, c-rel. *Science* 1987;238:692-694.
37. Rice NR, MacKichan ML, Israel A. The precursor of NF-kappa B p50 has I kappa B-like functions. *Cell* 1992;71:243-253.
38. Logeat F, Israel N, Ten R et al. Inhibition of transcription factors belonging to the rel/NF-kappa B family by a transdominant negative mutant. *EMBO J.* 1991;10:1827-1832.
39. Bressler P, Brown K, Timmer W et al. Mutational analysis of the p50 subunit of NF-kappa B and inhibition of NF-kappa B activity by trans-dominant p50 mutants. *J.Viro*. 1993;67:288-293.
40. Latimer M, Ernst MK, Dunn LL, Drutskaya M, Rice NR. The N-terminal domain of IkappaB alpha masks the nuclear localization signal(s) of p50 and c-Rel homodimers. *Mol.Cell Biol.* 1998;18:2640-2649.
41. Pahl HL. Activators and target genes of Rel/NF-kappaB transcription factors. *Oncogene* 1999;18:6853-6866.
42. Miyamoto S, Schmitt MJ, Verma IM. Qualitative changes in the subunit composition of kappa B-binding complexes during murine B-cell differentiation. *Proc.Natl.Acad.Sci.U.S.A* 1994;91:5056-5060.

43. Liou HC, Sha WC, Scott ML, Baltimore D. Sequential induction of NF-kappa B/Rel family proteins during B-cell terminal differentiation. *Mol.Cell Biol.* 1994;14:5349-5359.
44. Houldsworth J, Mathew S, Rao PH et al. REL proto-oncogene is frequently amplified in extranodal diffuse large cell lymphoma. *Blood* 1996;87:25-29.
45. Liptay S, Schmid RM, Perkins ND et al. Related subunits of NF-kappa B map to two distinct loci associated with translocations in leukemia, NFKB1 and NFKB2. *Genomics* 1992;13:287-292.
46. Neri A, Chang CC, Lombardi L et al. B cell lymphoma-associated chromosomal translocation involves candidate oncogene lyt-10, homologous to NF-kappa B p50. *Cell* 1991;67:1075-1087.
47. Maxwell SA, Mukhopadhyay T. A novel NF-kappa B p65 spliced transcript lacking exons 6 and 7 in a non-small cell lung carcinoma cell line. *Gene* 1995;166:339-340.
48. Mukhopadhyay T, Roth JA, Maxwell SA. Altered expression of the p50 subunit of the NF-kappa B transcription factor complex in non-small cell lung carcinoma. *Oncogene* 1995;11:999-1003.
49. Bours V, Dejardin E, Goujon-Letawe F, Merville MP, Castronovo V. The NF-kappa B transcription factor and cancer: high expression of NF- kap. *Biochem.Pharmacol.* 1994;47:145-149.
50. Bargou RC, Emmerich F, Krappmann D et al. Constitutive nuclear factor-kappaB-RelA activation is required for proliferation and survival of Hodgkin's disease tumor cells. *J.Clin.Invest* 1997;100:2961-2969.
51. Tran K, Merika M, Thanos D. Distinct functional properties of IkappaB alpha and IkappaB beta. *Mol.Cell Biol.* 1997;17:5386-5399.

52. Sun SC, Ganchi PA, Ballard DW, Greene WC. NF-kappa B controls expression of inhibitor I kappa B alpha: evidence for an inducible autoregulatory pathway. *Science* 1993;259:1912-1915.
53. Chiao PJ, Miyamoto S, Verma IM. Autoregulation of I kappa B alpha activity. *Proc.Natl.Acad.Sci.U.S.A.* 1994;91:28-32.
54. Sachdev S, Hoffmann A, Hannink M. Nuclear localization of IkappaB alpha is mediated by the second ankyrin repeat: the IkappaB alpha ankyrin repeats define a novel class of cis- acting nuclear import sequences. *Mol.Cell Biol.* 1998;18:2524-2534.
55. Arenzana-Seisdedos F, Thompson J, Rodriguez MS et al. Inducible nuclear expression of newly synthesized I kappa B alpha negatively regulates DNA-binding and transcriptional activities of NF- kappa B. *Mol.Cell Biol.* 1995;15:2689-2696.
56. Ito CY, Adey N, Bautch VL, Baldwin AS, Jr. Structure and evolution of the human IKBA gene. *Genomics* 1995;29:490-495.
57. Chiao PJ, Miyamoto S, Verma IM. Autoregulation of I kappa B alpha activity. *Proc.Natl.Acad.Sci.U.S.A* 1994;91:28-32.
58. Zandi E, Rothwarf DM, Delhase M, Hayakawa M, Karin M. The IkappaB kinase complex (IKK) contains two kinase subunits, IKKalpha and IKKbeta, necessary for IkappaB phosphorylation and NF-kappaB activation. *Cell* 1997;91:243-252.
59. DiDonato JA, Hayakawa M, Rothwarf DM, Zandi E, Karin M. A cytokine-responsive IkappaB kinase that activates the transcription factor NF-kappaB [see comments]. *Nature* 1997;388:548-554.

60. Mercurio F, Zhu H, Murray BW et al. IKK-1 and IKK-2: cytokine-activated IκB kinases essential for NF-κB activation [see comments]. *Science* 1997;278:860-866.
61. Mercurio F, Murray BW, Shevchenko A et al. IκB kinase (IKK)-associated protein 1, a common component of the heterogeneous IKK complex. *Mol.Cell Biol.* 1999;19:1526-1538.
62. Rothwarf DM, Zandi E, Natoli G, Karin M. IKK-gamma is an essential regulatory subunit of the IκB kinase complex [see comments]. *Nature* 1998;395:297-300.
63. Yaron A, Gonen H, Alkalay I et al. Inhibition of NF-κB cellular function via specific targeting of the I-κB-ubiquitin ligase. *EMBO J.* 1997;16:6486-6494.
64. Beauparlant P, Lin R, Hiscott J. The role of the C-terminal domain of IκBα in protein degradation and stabilization. *J.Biol.Chem.* 1996;271:10690-10696.
65. Meisner H, Czech MP. Phosphorylation of transcriptional factors and cell-cycle-dependent proteins by casein kinase II. *Curr.Opin.Cell Biol.* 1991;3:474-483.
66. Lin R, Beauparlant P, Makris C, Meloche S, Hiscott J. Phosphorylation of IκBα in the C-terminal PEST domain by casein kinase II affects intrinsic protein stability. *Mol.Cell Biol.* 1996;16:1401-1409.
67. Barroga CF, Stevenson JK, Schwarz EM, Verma IM. Constitutive phosphorylation of IκBα by casein kinase II. *Proc.Natl.Acad.Sci.U.S.A.* 1995;92:7637-7641.

68. Haskill S, Beg AA, Tompkins SM et al. Characterization of an immediate-early gene induced in adherent monocytes that encodes I kappa B-like activity. *Cell* 1991;65:1281-1289.
69. Angerer L.M. Demonstration of tissue-specific gene expression by in situ hybridization. *Methods Enzymol* 1987;152:649-661.
70. Milani S, Herbst H, Schuppan D, Hahn EG, Stein H. In situ hybridization for procollagen types I, III and IV mRNA in normal and fibrotic rat liver: evidence for predominant expression in nonparenchymal liver cells. *Hepatology* 1989;10:84-92.
71. Cordell JL, Falini B, Erber WN et al. Immunoenzymatic labeling of monoclonal antibodies using immune complexes of alkaline phosphatase and monoclonal anti-alkaline phosphatase (APAAP complexes). *J.Histochem.Cytochem.* 1984;32:219-229.
72. Kuppers R, Hansmann ML, Rajewsky K. Clonality and germinal centre B-cell derivation of Hodgkin/Reed- Sternberg cells in Hodgkin's disease. *Ann.Oncol.* 1998;9 Suppl 5:S17-S20.
73. Montesinos-Rongen M, Roers A, Kuppers R, Rajewsky K, Hansmann ML. Mutation of the p53 gene is not a typical feature of Hodgkin and Reed-Sternberg cells in Hodgkin's disease. *Blood* 1999;94:1755-1760.
74. Hummel M, Anagnostopoulos I, Korbjuhn P, Stein H. Epstein-Barr virus in B-cell non-Hodgkin's lymphomas: unexpected infection patterns and different infection incidence in low- and high- grade types. *J.Pathol.* 1995;175:263-271.
75. Krappmann D, Emmerich F, Kordes U et al. Molecular mechanisms of constitutive NF-kappaB/Rel activation in Hodgkin/Reed-Sternberg cells. *Oncogene* 1999;18:943-953.

76. Wood KM, Roff M, Hay RT. Defective IkappaBalph α in Hodgkin cell lines with constitutively active NF-kappaB. *Oncogene* 1998;16:2131-2139.
77. Luque I, Gelinas C. Rel/NF-kappa B and I kappa B factors in oncogenesis. *Semin.Cancer Biol.* 1997;8:103-111.
78. Rayet B, Gelinas C. Aberrant rel/nfkb genes and activity in human cancer. *Oncogene* 1999;18:6938-6947.
79. Sonenshein GE. Rel/NF-kappa B transcription factors and the control of apoptosis. *Semin.Cancer Biol.* 1997;8:113-119.
80. Rajewsky K. Clonal selection and learning in the antibody system. *Nature* 1996;381:751-758.
81. Beg AA, Baldwin AS, Jr. The I kappa B proteins: multifunctional regulators of Rel/NF-kappa B transcription factors. *Genes Dev.* 1993;7:2064-2070.
82. Beg AA, Finco TS, Nantermet PV, Baldwin ASJ. Tumor necrosis factor and interleukin-1 lead to phosphorylation and loss of I kappa B alpha: a mechanism for NF-kappa B activation. *Mol.Cell Biol.* 1993;13:3301-3310.
83. Brown K, Park S, Kanno T, Franzoso G, Siebenlist U. Mutual regulation of the transcriptional activator NF-kappa B and its inhibitor, I kappa B-alpha. *Proc.Natl.Acad.Sci.U.S.A.* 1993;90:2532-2536.
84. Sun SC, Ganchi PA, Beraud C, Ballard DW, Greene WC. Autoregulation of the NF-kappa B transactivator RelA (p65) by multiple cytoplasmic inhibitors containing ankyrin motifs. *Proc.Natl.Acad.Sci.U.S.A.* 1994;91:1346-1350.
85. Beg AA, Ruben SM, Scheinman RI et al. I kappa B interacts with the nuclear localization sequences of the subunits of NF-kappa B: a mechanism for cytoplasmic retention [published erratum appears in Genes Dev 1992 Dec;6(12B):2664-5]. *Genes Dev.* 1992;6:1899-1913.

86. Ganchi PA, Sun SC, Greene WC, Ballard DW. I kappa B/MAD-3 masks the nuclear localization signal of NF-kappa B p65 and requires the transactivation domain to inhibit NF-kappa B p65 DNA binding. *Mol.Biol.Cell* 1992;3:1339-1352.
87. Beg AA, Sha WC, Bronson RT, Baltimore D. Constitutive NF-kappa B activation, enhanced granulopoiesis, and neonatal lethality in I kappa B alpha-deficient mice. *Genes Dev.* 1995;9:2736-2746.
88. Cabannes E, Khan G, Aillet F, Jarrett RF, Hay RT. Mutations in the IkBa gene in Hodgkin's disease suggest a tumour suppressor role for IkappaBalpah. *Oncogene* 1999;18:3063-3070.
89. Drexler HG. Recent results on the biology of Hodgkin and Reed-Sternberg cells. II. Continuous cell lines. *Leuk.Lymphoma* 1993;9:1-25.
90. Wang CY, Cusack JC, Jr., Liu R, Baldwin AS, Jr. Control of inducible chemoresistance: enhanced anti-tumor therapy through increased apoptosis by inhibition of NF-kappaB. *Nat.Med.* 1999;5:412-417.
91. Kawamura I, Morishita R, Tomita N et al. Intratumoral injection of oligonucleotides to the NF kappa B binding site inhibits cachexia in a mouse tumor model. *Gene Ther.* 1999;6:91-97.
92. Berenson JR, Ma HM, Vescio R. The role of nuclear factor-kappaB in the biology and treatment of multiple myeloma. *Semin.Oncol.* 2001;28:626-633.
93. Chandra J, Niemer I, Gilbreath J et al. Proteasome inhibitors induce apoptosis in glucocorticoid-resistant chronic lymphocytic leukemic lymphocytes. *Blood* 1998;92:4220-4229.

94. Higgins KA, Perez JR, Coleman TA et al. Antisense inhibition of the p65 subunit of NF-kappa B blocks tumorigenicity and causes tumor regression. Proc.Natl.Acad.Sci.U.S.A 1993;90:9901-9905.
95. Annunziata CM, Safiran YJ, Irving SG, Kasid UN, Cossman J. Hodgkin disease: pharmacologic intervention of the CD40-NF kappa B pathway by a protease inhibitor. Blood 2000;96:2841-2848.