

## 7 Literaturverzeichnis

- ACHTSTÄTTER, T., R. MOLL, A. ANDERSON, C. KUHN, S. PITZ, K.  
 SCHWECHHEIMER und W.W.FRANKE (1986): Expression of glial filament protein (GFP) in nerve sheaths and nonneuronal cells reexamined using monoclonal antibodies, with special emphasis on the coexpression of GFP and cytokeratins in epithelial cells of human salivary gland and pleomorphic adenomas.  
*Differentiation* 31, 206-227
- AHMED, S. S., L. N. DAS und G. BISWAL (1968): Comparative histological study of the skin of fowl and duck.  
*Indian Veterin. J.* 45, 725-732
- ARIAS, J. L., M. S. FERNANDEZ und A. I. CAPLAN (1991): Absence from avian eggshell membranes of epitopes recognized by anti-keratin antibodies.  
*Poult. Sci.* 70, 1647-1650
- ANGEL, S., M. HYAMS und I. M. LEVINGER (1982): Scanning electron microscope study of the feather follicle wall attachment in chickens.  
*Brit. Poult. Sci.* 23, 247-249
- BARTEK, J., J. BARTKOVA, J. TAYLOR-PAPADIMITRIOU, A. REJTHAR, J. KOVÁŘIK, Z. LUKAŠ und B. VOJTĚŠEK (1986): Differential expression of keratin 19 in normal human epithelial tissues revealed by monospecific monoclonal antibodies.  
*Histochem.J.* 18, 565-575
- BERGMANN, V. (1995): Hauterkrankungen bei Schlachtgeflügel.  
 48. Fachgespräch der Fachgruppe „Geflügelkrankheiten“, Hannover.  
 Deutsche Veterinärmedizinische Gesellschaft, Giessen, S. 5-25
- BERGMANN, V., K. KOGLIN und A. VALENTIN (1995): Hauterkrankungen als Verwurfsursache bei geschlachteten Masthähnchen.  
*Tierärztl. Prax.* 23, 374-380
- BIEHL, J., S. HOLTZER, G. S. BENNETT, T. SUN und H. HOLTZER (1986): Cultured chick blastodisc cells diverge into lineages with different IF isoforms.  
*Ann. N. Y. Acad. Sci.* 455, 158-166
- BOENISCH, T. (1997): Antikörper. Einführung in die Immunchemie.  
 Enzyme. Färbemethoden. Kontrollen. Hintergrundreaktivität.  
 In: NAISH, S. J. (Hrsg.): Handbuch II immunchemischer Färbemethoden.  
 3. Auflage, DAKO Corporation: Carpinteria, California, USA. S. 1-33
- BOURNE, J. A. (1997): Handbuch I der Immunperoxidase-Färbemethoden.  
 3. Auflage, DAKO Corporation: Carpinteria, California, USA, S. 1-36

- BRUSH, A. H. und J. H. WYLD (1980): Molecular correlates of morphological differentiation: Avian scutes and scales.  
J. Exp. Zool. 212, 153-157
- BUNTON, T. E. (1993): The immunocytochemistry of cytokeratin in fish tissues.  
Vet. Pathol. 30, 418-425
- BYRNE, C., M. TAINSKY und E. FUCHS (1994): Programming gene expression in developing epidermis.  
Development 120, 2369-2383
- CANE, A. K. und R. I. C. SPEARMAN (1967): A histochemical study of keratinization in domestic fowl (*Gallus gallus*).  
J. Zool. 153, 337-352
- CARDONA, A., B. R. MADEWELL, D. K. NAYDAN und J. K. LUND (1989): A comparison of six monoclonal antibodies for detection of cytokeratins in normal and neoplastic canine tissues.  
J. Vet. Diagn. Invest. 1, 316-323
- CARVER, W. E. und R. H. SAWYER (1989): Immunocytochemical localization and biochemical analysis of alpha and beta keratins in the avian lingual epithelium.  
Am. J. Anat. 184, 66-75
- CATTORETTI, G., S. PILERI, C. PARRAVICINI, M. H. G. BECKER, S. POGGI, C. BIFULCO, G. KEY, L. D'AMATO, E. SABATTINI, E. FEUDALE, F. REYNOLDS, J. GERDES und F. RILKE (1993): Antigen unmasking on formalin-fixed, paraffin-embedded tissue sections.  
J. Pathol. 171, 79-97
- CHARLEBOIS, T., D. H. SPENCER, S. K. TARKINGTON, J. J. HENRY und R. M. GRAINGER (1990): Isolation of a chick cytokeratin cDNA clone indicative of regional specification in early embryonic ectoderm.  
Development 108, 33-45
- CHIN, N. W., B. T. LAI und K. W. LANKS (1988): Rat antikeratin monoclonal antibodies are specific for stratified squamous epithelia.  
Am. J. Clinical Pathology. 89, 315-320
- CLARK, G. A. (1993): Integumentum commune.  
In: BAUMEL, J. J., A. S. KING, J. E. BREAZILE, H. E. EVANS und J. C. VANDEN BERGE (Hrsg.): Handbook of Avian Anatomy: Nomina Anatomica Avium. The Nuttall Ornithological Club, Nr 23, 2. Aufl.: Cambridge, Massachusetts. S. 17-44
- COOPER, D., A. SCHERMER und T. T. SUN (1985): Classification of human epithelia and their neoplasms using monoclonal antibodies to keratins: strategies, applications, and limitations.  
Lab. Invest. 52, 243-256

- CORDELL, J. L., B. FALINI, W. N. ERBER, A. K. GOSH, Z. ABDULAZIZ, S. MacDONALD, K. A. F. PULFORD, H. STEIN und D. Y. MASON (1984): Immunoenzymatic labeling of monoclonal antibodies using immune complex of alkaline phosphatase and monoclonal anti-alkaline phosphatase (AAP-Complexes). *J. Histochem. Cytochem.* 32, 219-229
- COWIN, P., W. W. FRANKE, C. GRUND und H. -P. KAPPRELL (1985): The desmosome-intermediate filament complex. In: EDELMAN, G. M. und J. -P. THIERY (Hrsg.): *The cell in contact*. John Wiley & Sons: New York. S. 427-460
- DENK, H. (1986): Morphologische Nachweismethoden: Methodisches Spektrum (Prinzipien, Mechanismen und Wertigkeit). *Verh. Dtsch. Ges. Pathol.* 70, 18-27
- DESNOYERS, M. M., D. M. HAINES und G. P. SEARCY (1990): Immunohistochemical detection of intermediate filament proteins in formalin fixed normal and neoplastic canine tissues. *Can. J. Vet. Res.* 54, 360-365
- DHOUAILLY, D., G. E. ROGERS und P. SENGEL (1978): The specification of feather and scale protein synthesis in epidermal-dermal recombinations. *Dev. Biol.* 65, 58-68
- DOCKHORN-DWORNICZAK, B., W. W. FRANKE, S. SCHRÖDER, B. CZERNOBILSKY, V. E. GOULD und W. BÖCKER (1987): Patterns of expression of cytoskeletal proteins in human thyroid gland and thyroid carcinomas. *Differentiation* 35, 53-71
- DUHM, B. (1990): Darstellung von Intermediärfilamenten mit Hilfe der AAPAP-Methode. *mta* 5, 15-19
- EICHNER, R., P. BONITZ und T.-T. SUN (1984): Classification of epidermal keratins according to their immunoreactivity, isoelectric point, and mode of expression. *J. Cell Biol.* 98, 1388-1396
- ECKERT, W. A. und J. KARTENBECK (1997): Isolierung von Intermediärfilament-Proteinen aus Zellkulturen und verschiedenen Geweben. In: ECKERT W. A. und J. KARTENBECK (Hrsg.): *Proteine: Standardmethoden der Molekular- und Zellbiologie*. Springer-Verlag. S. 13-24
- ELIAS, P. M., G. K. MENON, S. GRAYSON, B. E. BROWN und S. J. REHFELD (1987): Avian sebokeratocytes and marine mammal lipokeratinocytes: Structural, lipid biochemical, and functional considerations. *Am. J. Anat.* 180, 161-177

ERICKSON, C. A., R. P. TUCKER und B. F. EDWARDS (1987): Changes in the distribution of intermediate filament types in Japanese quail embryos during morphogenesis.

Differentiation 34, 88-97

EYKEN, P. VAN, R. SCIOT, A. PATERSON, F. CALLEA, M. C. KEW und V. DESMET (1988): Cytokeratin expression in hepatocellular carcinoma: an immunohistochemical study. Hum. Pathol. 19, 562-568

FISCHER, D. Z., N. CHAUDHARY und G. BLOBEL (1986): cDNA sequencing of nuclear lamins A and C reveals primary and secondary structural homology to intermediate filament proteins.

Proc. Natl. Acad. Sci. USA 83, 6450-6454

FLAXMAN, B. A. (1972): Cell differentiation and its control in the vertebrate epidermis.

Am. Zool. 12, 13-25

FRANKE, W. W. (1987): Nuclear lamins and cytoplasmatic intermediate filament proteins: a growing multigene family.

Cell 48, 3-4

FRANKE, W. W. (1993): Intermediate filaments and associated proteins.

In: KREIS, T. und R. VALE (Hrsg.): Guidebook to the cytoskeletal and motor proteins. University Press: Oxford. S. 137-143

FRANKE, W. W., B. APPELHANS, E. SCHMID, C. FREUDENSTEIN, M. OSBORN und K. WEBER (1979): Identification and characterization of epithelial cells in mammalian tissues by immunofluorescence microscopy using antibodies to prekeratin.

Differentiation 15, 7-25

FRANKE, W. W. und R. MOLL (1987): Cytoskeletal components of lymphoid organs.

I. Synthesis of cytokeratins 8 and 18 and desmin in subpopulations of extrafollicular reticulum cells of human lymph nodes, tonsils, and spleen.

Differentiation 36, 145-163

FRASER, R. B. D. und T. P. McRAE (1980): Molecular structure and mechanical properties of keratins.

In: VINCENT, J. F. V. and J. D. CURREY (Hrsg.): The mechanical properties of biological material. Soc. Exp. Biol. Lond. S. 211-246

FREINKEL, R. K. (1972): Lipogenesis in epidermal differentiation of embryonic chick skin.

J. Invest. Dermatol. 59, 332-338

FUCHS, E.V., S. M. COPPOCK, F. H. GREEN und D. W. CLEVELAND (1981): Two distinct classes of keratin genes and their evolutionary significance.

Cell 27, 75-84

FUCHS, E. und H. GREEN (1980): Changes in keratin gene expression during terminal differentiation of the keratinocyte.  
*Cell* 19, 1033-1042

FUCHS, E. und D. MARCHUK (1983): Type I and type II keratins have evolved from lower eukaryotes to form the epidermal intermediate filaments in mammalian skin.  
*Proc. Natl. Acad. Sci. USA* 80, 5857-5861

FUCHS, E., A. L. TYNER, G. J. GIUDICE, D. MARCHUK, A. RAYCHAUDHURY und M. ROSENBURG (1987): The human keratin genes and their differential expression.  
*Current Topics in Developmental Biology*. 22, 5-34

FUNG, K. M. , A. MESSING, V. M. Y. LEE und J. Q. TROJANOWSKI (1992): A novel modification of the avidin-biotin complex method for immunohistochemistry studies of transgenic mice with murine monoclonal antibodies.  
*J. Histochem. Cytochem.* 40, 1319-1328

GARCIA-IGLESIAS, M. J., C. PEREZ-MARTINEZ, A. M. BRAVO-MORAL, M. C. FERRERAS-ESTRADA, R. A. GARCIA-FERNANDEZ, J. ESPINOSA-ALVAREZ und A. ESCUDERO-DIEZ (1997): Spontaneous mouse mammary tumours: incidence and cytokeratin expression.  
*Res. Vet. Sci.* 63, 85-89

GEISLER, N. und K. WEBER (1982): The amino acid sequence of chicken muscle desmin provides a common structural model for intermediate filament proteins. *EMBO (Eur. Mol. Biol. Organ.) J.* 1, 1649-1656

HAMADA, M., T. OYAMADA, H. YOSHIKAWA, T. YOSHIKAWA und C. ITAKURA (1990): Keratin expression in equine normal epidermis and cutaneous papillomas using monoclonal antibodies.  
*J. Comp. Path.* 102, 405-420

HANUKOGLU, I. und E. FUCHS (1983): The cDNA sequence of a type II cytoskeletal keratin reveals constant and variable structural domains among keratins. *Cell* 33, 915-924

HEID, H. W., I. MOLL und W. W. FRANKE (1988): Patterns of expression of trichocytic and epithelial cytokeratins in mammalian tissues. II. Concomitant and mutually exclusive synthesis of trichocytic and epithelial cytokeratins in diverse human and bovine tissues (hair follicles, nail bed and nail matrix, lingual papilla, thymic reticulum).  
*Differentiation* 37, 137-157

HOGES, R. D. (1974): The Histology of the Fowl.  
 Academic Press Inc: London, New York, San Francisco. S. 1-34

- HSU, S.-M., L. RAINÉ und H. FANGER (1981): Use of Avidin-Biotin-Peroxidase Complex (ABC) in Immunoperoxidase Techniques: A comparison between ABC and unlabeled antibody (PAP) procedures.  
*J. Histochem. Cytochem.* 29, 577-580
- ISHIKAWA, H, R. BISCHOFF und H. HOLTZER (1968): Mitosis and intermediate-sized filaments in developing skeletal muscle.  
*J. Cell Biol.* 38, 538-555
- ISHIKAWA, H, R. BISCHOFF und H. HOLTZER (1969): Formation of arrowhead complexes with heavy meromyosin in a variety of cell types.  
*J. Cell Biol.* 43, 312-328
- IVANYI, D., A. ANSINK, E. GROENEVELD, P. C. HAGEMAN, W. J. MOOI und A. P. M. HEINTZ (1989): New monoclonal antibodies recognizing epidermal differentiation-associated keratins in formalin-fixed, paraffin-embedded tissue. Keratin 10 expression in carcinoma of the vulva.  
*J. Pathol.* 159, 7-12
- IVANYI, D., J. M. H. M. MINKE, PH. C. HAGEMAN, E. GROENEVELD und G. VAN DOORNEWAARD (1992): Patterns of expression of feline cytokeratins in healthy epithelia and mammary carcinoma cells.  
*Am. J. Vet. Res.* 53, 304-314
- IVANYI, D., J. M. H. M. MINKE, PH. C. HAGEMAN, E. GROENEVELD, G. VAN DOORNEWAARD und W. MISAORP (1993): Cytokeratins as marker of initial stages of squamous metaplasia in feline mammary carcinomas.  
*Am. J. Vet. Res.* 54, 1095-1102
- JIANG, C.-K., T. MAGNALDO, M. OHTSUKI, I. M. FREEDBERG, F. BERNERD und M. BLUMENBERG (1993): Epidermal growth factor and transforming growth factor  $\alpha$  specifically induce the activation- and hyperproliferation- associated keratins 6 and 16.  
*Proc. Natl. Acad. Sci. USA* 90, 6786-6790
- KEMP, D. J. und G. E. ROGERS (1972): Differentiation of avian keratinocytes. Charakterization and relationships of the keratin proteins of adult and embryonic feathers and scales.  
*Biochem.* 11, 969-975
- KÖHLER, G. und G. MILSTEIN (1975): Continuous cultures of fused cells producing antibodies of predefined specificity.  
*Nature* 256, 495-497
- KOLB, G. (1991): Vergleichende Histologie. Springer Verlag: Berlin, Heidelberg.
- KÖNIG, H. E., S. REESE und C. MÜLLING (2001):  
 Allgemeine Körperdecke (Integumentum commune).  
 In: KÖNIG, H. E. und H.-G. LIEBICH (Hrsg.): Anatomie und Propädeutik des Geflügels. Schattauer: Stuttgart, New York. S. 221-232

- KOPAN, R. und E. FUCHS (1989): The use of retinoic acid to probe the relation between hyperproliferation-associated keratins and cell proliferation in normal and malignant epidermal cells.  
J. Cell Biol. 109, 295-307
- KOZAKI, M., Y. NAKAMURA, M. IGUCHI, R. KANO, S. WATANABE, K. FUJIWARA und A. HASEGAWA (2001): Immunohistochemical analysis of cytokeratin expression in dog skin.  
J. Vet. Med. Sci. 63, 1-4
- KÜNZEL, E. (1990): Haut (Integumentum commune).  
In: MOSIMANN, W. und T. KOHLER (Hrsg.): Zytologie, Histologie und mikroskopische Anatomie der Haussäugetiere. Parey-Verlag: Berlin und Hamburg. S. 259-287
- LANE, E. B. (1982): Monoclonal antibodies provide specific intramolecular markers for the study of epithelial tonofilament organization.  
J. Cell Biol. 92, 665-673
- LANE, E. B. und C. M. ALEXANDER (1990): Use of cytokeratin antibodies in tumor diagnosis.  
Semin. Cancer Biol. 1, 165-179
- LANE, E. B., J. BARTEK, P. E. PURKIS und I. M. LEIGH (1985): Keratin antigens in differentiating skin.  
Ann. N. Y. Acad. Sci. 455, 241-258
- LAZARIDES, E. (1980): Intermediate filaments as mechanical integrators of cellular space.  
Nature (Lond.). 283, 249-256
- LAZARIDES, E. (1982): Intermediate filaments: a chemically heterogeneous, developmentally regulated class of proteins.  
Annual Review of Biochemistry. 51, 219-250
- LILLIE, R.D. (1954):  
In: Histopathologic technic and practical histochemistry.  
Blakiston Co.: New York, 1954.
- LOBECK, H. (1990): Orthologie und Pathologie der Zytokeratine. Habilitationsschrift, Inst. Pathol. FU Berlin
- LOBECK, H., I. BARTKE, K. NAUJOKS, D. MÜLLER, G. BRONHÖFT und D. MISCHKE et al. (1989): Verteilungsmuster der Zytokeratinpolypeptide 4 und 5 im normalen und neoplastischen Epithel unter Verwendung neuer paraffingängiger monoklonaler Antikörper. Eine immunhistochemische Studie.  
Verh. Dsch. Gesell. Pathol. 73, 645
- LUCAS, A. M. und P. R. STETTENHEIM (1972): Avian Anatomy. Integument, Bd 1 und 2. Agriculture Handbook 362. Agricultural Research Service. United States Department of Agriculture

LYNCH, M. H., W. M. O`GUIN, C. HARDY, L. MAK und T.-T. SUN (1986): Acidic and basic hair/nail ("hard") keratins: their colocalization in upper cortical and cuticle cells of the human hair follicle and their relationship to "soft" keratins. *J. Cell Biol.* 103, 2593-2606

MANSBRIDGE, J. N. und A. M. KNAPP (1987): Changes in keratinocyte maturation during wound healing. *J. Invest. Dermatol.* 89, 253-262

MARKL, J. und W. W. FRANKE (1988): Lokalization of cytokeratins in tissues of the rainbow trout: fundamental differences in expression pattern between fish and higher vertebrates. *Differentiation* 39, 97-122

MATOLTSY, A. G. (1969): Keratinization of the avian epidermis. *J. Ultrastruct. Res.* 29, 438-458

MATOLTSY, A. G. (1987): Concluding remarks and future directions. In: MOSCONA, A. A. und A. MONROY und R.H. SAWYER (Hrsg.): Current topics in developmental biology. Academic Press, Inc. 22, 255-264

MAYR, E. (1979): Evolution und die Vielfalt des Lebens. J. Springer Verlag: Berlin, Heidelberg, New York.

McEWAN JENKINSON, D. und P. S. BLACKBURN (1968): The distribution of nerves, monoamine oxidase and cholinesterase in the skin of poultry. *Res. Vet. Sci.* 9, 429-434

McGUIRE, J., M. OSBER und L. LIGHTFOOT (1984): Two keratins MW 50,000 and 56,000 are synthesized by psoriatic epidermis. *Brit. J. Dermatol.* 27 (Suppl.), 27-37

McKEON, F. D., M. W. KIRSCHNER und D. CAPUT (1986): Homologies in both primary and secondary structure between nuclear envelope and intermediate filament proteins. *Nature (Lond.)*. 319, 463-468

MCLELLAN, G. J. und P. G. C. BEDFORD (1997): The cytoskeletal intermediate filaments of canine retinal pigment epithelial cells in vivo and in vitro. *Res. Vet. Sci.* 63, 245-251

MENON, G. K., S. K. AGGARWAL und A. M. LUCAS (1981): Evidence for the holocrine nature of lipid secretion by avian epidermal cells: A histochemical and fine structural study of rictus and uropygial gland. *J. Morphol.* 167, 185-199

MEPHAM, B. L., W. FRATER und B. S. MITCHELL (1979): The use of proteolytic enzymes to improve immunoglobulin staining by the PAP technique. *Histochem. J.* 11, 345

MEYER, W. und M. RÖHRS (1986): Von der Reptilienschuppe zu Feder und Haar - zur Evolution der Hautanhangsorgane.  
Dtsch. Tierärztl. Wochenschr. 93, 245-251

MIETTINEN, M. (1995): Keratin 20: immunohistochemical marker for gastrointestinal, urothelial, and Merkel cell carcinomas.  
Mod. Pathol. 8, 384-388

MOLL, I., H. W. HEID, W. W. FRANKE und R. MOLL (1988): Patterns of expression of trichocytic and epithelial cytokeratins in mammalian tissues.  
Differentiation 139, 167-184

MOLL, R., W. W. FRANKE, D. L. SCHILLER, G. GEIGER und R. KREPLER (1982): The catalog of human cytokeratins: patterns of expression in normal epithelia, tumors and cultured cells.  
Cell 31, 11-24

MOLL, R., I. MOLL und W.W. FRANKE (1984): Identification of Merkel cells in human skin by specific cytokeratin antibodies: Changes of cell density and distribution in fetal and adult plantar epidermis.  
Differentiation 28, 136-154

MOLL, R., D. L. SCHILLER und W. W. FRANKE (1990): Identification of protein IT of the intestinal cytoskeleton as a novel type I cytokeratin with unusual properties and expression patterns.  
J. Cell Biol. 111, 567-580

MOLL, R., A. LÖWE, J. LAUFER und W. W. FRANKE (1992): Cytokeratin 20 in human carcinomas. A new histodiagnostic marker detected by monoclonal antibodies.  
Am. J. Pathol. 140, 427-447

MOLL, R. (1993): Cytokeratine als Differenzierungsmarker: Expressionsprofile von Epithelen und epithelialen Tumoren. Gustav Fischer Verlag, Stuttgart.

MOORE, A. S., B. R. MADEWELL und J. K. LUND (1989): Immunhistochemical evaluation of intermediate filament expression in canine and feline neoplasms.  
Am. J. Vet. Res. 50, 88-92

MUIJEN, G. N. P. VAN, D. J. RUITER, W. W. FRANKE, T. ACHTSTÄTTER, W. H. B. HAASNOOT, M. PONEC und S. O. WARNAAR (1986): Cell type heterogeneity of cytokeratin expression in complex epithelia and carcinomas as demonstrated by monoclonal antibodies specific for cytokeratin nos. 4 and 13.  
Exp. Cell Res. 162, 97-113

MULAS, J. M. DE LAS, A. E. DE LOS MONTEROS, J. C. GOMEZ-VILLAMANDOS, A. FERNANDEZ und J. H. VOS (1994): Immunohistochemical distribution of keratin proteins in feline tissues.  
J. Vet. Med. Series A. 41, 283-297

- NARITOKU, W. Y. und C. R. TAYLOR (1982): A comparative study of the use of monoclonal antibodies using three different immunohistochemical methods. *J. Histochem. Cytochem.* 30, 253-260
- NELSON, W. und T.-T. SUN (1983): The 50- and 58-kD keratin classes as molecular marker for stratified squamous epithelia: cell culture studies. *J. Cell Biol.* 97, 244-251
- O`GUIN, W. M., S. GALVIN, A. SCHERMER und T.-T. SUN (1987): Patterns of keratin expression define distinct pathways of epithelial development and differentiation. *Current Topics in Developmental Biology* 22, 97-125
- O`GUIN, W. M. und R. H. SAWYER (1982): Avian scale development. VIII. Relationships between morphogenesis and biosynthetic differentiation. *Dev. Biol.* 89, 485-492
- OLAH, I. und B. GLICK (1992): Dynamic changes in the intermediate filaments of the epithelial cells during development of the chicken's bursa of fabricius. *Poult. Sci.* 71, 1857-1872
- OLAH, I., T. R. SCOTT, M. GALLEGOS, C. KENDALL und B. GLICK (1991): Plasma cells expressing immunoglobulins M and A but not immunoglobulin G develop an intimate relationship with central canal epithelium in the Harderian gland of the chicken. *Poult. Sci.* 71, 664-676
- OSBORN, M. (1983): Intermediate filaments as histologic markers: an overview. *J. Invest. Dermatol.* 81, 104s-109s
- OSTMANN, O. W., R. K. RINGER und M. TETZLAFF (1963): The anatomy of the feather follicle and its immediate surroundings. *Poult. Sci.* 42, 958-969
- PAGE, M. (1989): Changing patterns of cytokeratins and vimentin in the early chick embryo. *Development* 105, 97-107
- PARAKKAL, P. F. und A. G. MATOLTSY (1968): An electron microscopic study of developing chick skin. *J. Ultrastruct. Res.* 23, 403-416
- PASS, D. A. (1989): The Pathology of the Avian Integument. *Avian Pathology* 18, 1-72
- PEREZ-MARTINEZ, C., R. A. GARCIA-FERNANDEZ, M. C. FERRERAS-ESTRADA, A. ESCUDERO-DIEZ, J. ESPINOSA-ALVAREZ und M. J. GARCIA-IGLESIAS (1998): Optimization of the immunohistochemical demonstration of keratins in paraffin wax-embedded mouse skin. *J. Comp. Path.* 119, 177-181

PRESLAND, R. B., K. GREGG, P. L. MOLLOYS, C. P. MORRIS, L. A. CROCKER und G. E. ROGERS (1989): Avian keratin genes.  
J. Mol. Biol. 209, 549-559

PREUSS, F. und K. DONAT (1993): Abbildungen zur mikroskopischen Anatomie des Geflügels. Anleitung zur Ganztierpräparation des Huhnes. (Teil II) von K. Donat, Institut für Veterinär-Anatomie der Freien Universität Berlin. Abb. I, 1.1

PURKIS, P. E., J. B. STEEL, I. C. MACKENZIE, W. B. J. NATHRATH, I. M. LEIGH und LANE (1990): Antibody markers of basal cells in complex epithelia.  
J. Cell Sci. 97, 39-50

QUINLAN, R. A., D. L. SCHILLER, M. HATZFELD, T. ACHTSTATTER, R. MOLL, J. L. JORCANO, T. M. MAGIN und W. W. FRANKE (1985): Patterns of expression and organization of cytokeratin intermediate filaments.  
In: BOLAND, B. (Hrsg.): Intermediate Filaments.  
Ann. N. Y. Acad. Sci. 455, S. 282-306

RABANAL, R. H., D. FONDEVILA, V. MONTANE, M. DOMINGO und L. FERRER (1989): Immuncytochemical diagnosis of skin tumours of the dog with special reference to undifferentiated types.  
Res. Vet. Sci. 47, 129-133

RAMIREZ, A., M. A. VIDAL, A. M. BRAVO, F. LARCHER und J. L. JORCANO (1995): A 5'-upstream region of a bovine keratin 6 gene confers tissue-specific expression and hyperproliferation-related induction in transgenic mice.  
Proc. Natl. Acad. Sci. USA 92, 4783-4787

ROELS, S., R. DUCATELLE und D. BROEKAERT (1997): Keratin pattern in hyperkeratotic and ulcerated gastric pars oesophagea in pigs.  
Res. Vet. Sci. 62, 165-169

RUDALL, K. M. (1947): X-ray studies of the distribution of protein chain types in the vertebrate epidermis.  
Biochem. Biophys. Acta 1, 549-562

SALOMON, F.-V. (1993): Lehrbuch der Geflügelanatomie.  
Gustav Fischer Verlag: Jena, Stuttgart. S. 395-412.

SANDUSKY, G. E., K. A. WIGHTMAN und W. W. CARLTON (1991): Immunocytochemical study of tissues from clinically normal dogs and of neoplasms, using keratin monoclonal antibodies.  
Am. J. Vet. Res. 52, 613-618

SAWYER, R. H. (1972): Avian scale development. I. Histogenesis and morphogenesis of the epidermis and dermis during formation of the scale ridge.  
J. Exp. Zool. 181, 365-384

- SAWYER, R. H., U. K. ABBOTT und G. N. FRY (1974): Avian scale development. III.  
Ultrastructure of the keratinizing cells of the outer and inner epidermal  
surfaces of the scale ridge.  
*J. Exp. Zool.* 190, 70-78
- SAWYER, R. H. und T. K. BORG (1979): Avian scale development. VI.  
Ultrastructure of the keratinizing cells of reticulate scales.  
*J. Morphol.* 161, 111-122
- SAWYER, R. H. und K. F. CRAIG (1977): Avian scale development. Absence of an  
"Epidermal Placode" in reticulate scale morphogenesis.  
*J. Morphol.* 154, 83-94
- SAWYER, R. H., L. W. KNAPP und W. M. O'GUIN (1986): The skin of birds:  
Epidermis, dermis and appendages. In: BREITNER-HAHN, J., A. G.  
MATOLTSY und K. S. RICHARDS (Hrsg.): *Biology of the Integument,  
Vertebrates*, Bd. 2. Springer-Verlag: Berlin. S. 194-238 und S. 374-408
- SCHMID, E., S. TAPSCOTT, G. S. BENNET, J. CROOP, S. A. FELLINI, H.  
HOLTZER und W. W. FRANKE (1979): Differential location of different types  
of intermediate-sized filaments in various tissues of chicken embryo.  
*Differentiation* 15, 27-40
- SCHWARZ, M. A., K. OWARIBE, J. KARTENBECK und W. W. FRANKE (1990):  
Desmosomes and hemidesmosomes: constitutive molecular components.  
*Annu. Rev. Cell Biol.* 6, 461-491
- SHAMES, R. B., L. W. KNAPP, W. E. CARVER, L. D. WASHINGTON und R. H.  
SAWYER (1989): Keratinization of the outer surface of the avian scutate  
scale: Interrelationship of alpha and beta keratin filaments in a cornifying  
tissue.  
*Cell Tiss. Res.* 257, 85-92
- SHAMES, R. B. und R. H. SAWYER (1987): Expression of  $\beta$ -keratin genes during  
development of avian skin appendages.  
*Current Topics in Developmental Biology* 22, 235-253
- SHI, S. R., M. E. KEY und K. L. KALRA (1991): Antigen retrieval in formalin-fixed  
paraffin embedded tissues: an enhancement method for  
immunohistochemical staining based on microwave oven heating of sections.  
*J. Histochem. Cytochem.* 39, 741-748
- SPEARMAN, R. I. C. (1983): Integumentary system.  
In: BELL, D. J. und B. M. FREEMAN (Hrsg.): *Physiology and Biochemistry of  
the Domestic Fowl*, Bd 4. Academic Press: London, New York. S. 603-620
- STEINERT, P. M., A. C. STEVEN und D. R. ROOP (1985): The molecular biology of  
intermediate filaments. A review.  
*Cell* 42, 411-419

- STEINERT, P. M. und D. R. ROOP (1988): Molecular and cellular biology of intermediate filaments.  
Ann. Rev. Biochem. 57, 593-625
- STEWART, M. (1977): The strucure of chicken scale keratin.  
J. Ultrastruct. Res. 60, 27-33
- STOLER, A., R. KOPAN, M. DUVIC und E. FUCHS (1988): Use of monospecific antisera and cRNA probes to localize the major changes in keratin expression during normal and abnormal epidermal differentiation.  
J. Cell Biol. 107, 427-446
- SUN, T.-T. , R. EICHNER, W. G. NELSON (1983): Keratin classes: Molecular markers for different types of epithelial differentiation.  
J. Invest. Dermatol. 81, 109s-115s
- SUN, T.-T., R. EICHNER, A. SCHERMER, D. COOPER, W. G. NELSON und R. A. WEISS (1984): Classification of expression and possible mechanisms of evolution of mammalian epithelial keratins: a unifying model.  
In: LEVINE, A. J., G. F. VANDE, WOUNDE, W. C. TOPP und J. D. WATSON (Hrsg.): Cancer Cells I. The Transformed Phenotype. Cold Spring Harbor Laboratory: Cold Spring Harbor, New York. S. 169-176
- SUTER, M. M., J. E. WILKINSON, L. J. GREENBERGER, C. A. SMITH und R. M. LEWIS (1987): Monoclonal antibodies: cell surface markers for canine keratinocytes.  
Am. J. Vet. Res. 45, 367-369
- TAKIGUCHI-HAYASHI, K., T. MIZUNO und S. YASUGI (1996): Cytokeratin expression in the stomach epithelia of the chicken embryo is regulated by epithelial-mesenchymal interactions.  
Zool. Sci. 13, 263-270
- THOMPSON, J. S., I. VIRTANEN und V. P. LEHTO (1987): Intermediate filaments in normal tissues and lymphomas of northern pikes, *Esox Lucius* L., from the Aland islands of Finland.  
J. Comp. Path. 97, 257-266
- THOONEN, H., D. BROEKAERT, P. COUCKE, T. MAENHOUT und J. HOORENS (1990): Expression of cytokeratines in epithelial tumours of the dog investigated with monoclonal antibodies.  
Schweiz. Arch. Tierheilk. 132, 477
- TRAUB, P. (1985): Intermediate Filaments. A review. Springer-Verlag: Berlin, Heidelberg, New York, Tokyo. S.
- TSENG, S. C. G., M. J. JARVINEN, W. G. NELSON, J.-W. HUANG, J. WOODCOCK-MITCHELL und T.-T. SUN (1982): Correlation of specific keratins with different types of epithelial differentiation: monoclonal antibody study.  
Cell 30, 361-372

- TYNER, A. L. und E. FUCHS (1986): Evidence for posttranscriptional regulation of the keratins expressed during hyperproliferation and malignant transformation in human epidermis.  
*J. Cell Biol.* 103, 1945-1955
- VIAC, J., A. REANO, J. BROCHIER, M.-J. STAQUET und J. THIVOLET (1983): Reactivity pattern of a monoclonal antikeratin antibody (KL1).  
*J. Invest. Dermatol.* 81, 351-354
- VOLLMERHAUS, B. und F. SINOWATZ (1992): Haut und Hautgebilde.  
 In: NICKEL, R., A. SCHUMMER und E. SEIFERLE (Hrsg.): Lehrbuch der Anatomie der Haustiere, Bd 5, Anatomie der Vögel, 2. Aufl., Verlag Paul Parey: Berlin und Hamburg. S. 16-49
- VOS, J. H., T. S. G. A. M. VAN DEN INGH, W. MISDORP, F. C. S. RAMAEKES, F. N. VAN MIL und M. DE NEIJS (1989): Keratin staining of canine epithelial tissues by a polyclonal antiserum.  
*J. Vet. Med.* 36, 374-385
- VYBERG, M. und R. MOLL (2001): Cytokeratine in der diagnostischen Histopathologie. DAKO Diagnostika: Hamburg.
- WALTER, J. H. (1994): Standardprotokolle. Immunhistochemische Färbungen.  
 Inst. Vet.-Pathol. FU Berlin
- WALTER, J. H. und S. KLING (1995): Biochemical and immunohistochemical characterisation of cytokeratins in normal and neoplastic canine mammary glands.  
*Europ J. Vet. Pathol.* 1, 105-111
- WALTER, J. H. (1998): Epikrise epithelialer Neoplasien beim Hund.  
 Epidemiologische, biochemische und immunhistochemische Untersuchungen.  
 Habilitationsschrift, Inst. Vet.-Pathol. FU Berlin
- WALTER, J. H. (2001): Cytokeratins in the canine epidermis.  
*Vet. Dermatol.* 12, 81-87
- WATANABE, S., K. WAGATSUMA, E. ICHIWAKA und H. TAKAHASHI (1991): Abnormal distribution of epidermal protein antigens in psoriatic epidermis.  
*J. Dermatol.* 18, 143-151
- WEISS, R. A., R. EICHNER und T.-T. SUN (1984): Monoclonal antibody analysis of keratin expression in epidermal diseases: a 48- and 56-kdalton keratin as molecular markers for hyperproliferative keratinocytes.  
*J. Cell Biol.* 98, 1397-1406
- WOODS, E. F. (1983): The number of polypeptide chains in the rod domain of bovine epidermal keratin.  
*Biochem. Int.* 7, 769-774

WOODCOCK-MITCHELL, J., R. EICHNER, W. G. NELSON und T.-T. SUN (1982):  
Immunolocalization of keratin polypeptides in human epidermis using  
monoclonal antibodies.  
*J. Cell Biol.* 95, 580-588

WRENCH, R., J. A. HARDY und R.I.C. SPEARMAN (1980): Sebokeratocytes of  
avian epidermis - with mammalian comparisons.  
In: SPEARMAN, R. I. C. und P.A. RILEY (Hrsg.): *The Skin of Vertebrates*.  
Linnean Society of London by Academic Press: New York. S. 47-61