

7. Literaturverzeichnis

1. Society AC. Cancer Facts and Figures 2006.
http://wwwcancerorg/docroot/STT/stt_0asp; 2006.
2. Burchardt M, Burchardt T, Shabsigh A, De La Taille A, Benson MC, Sawczuk I. Current concepts in biomarker technology for bladder cancers. Clin Chem 2000; 46:595-605.
3. Bane BL, Rao JY, Hemstreet GP: Pathology and staging of bladder cancer. Semin Oncol 1996; 23:546-570.
4. Heney NM, Proppe K, Prout GR, Jr., Griffin PP, Shipley WU. Invasive bladder cancer: tumor configuration, lymphatic invasion and survival. J Urol 1983; 130:895-897.
5. Heney NM, Ahmed S, Flanagan MJ, Frable W, Corder MP, Hafermann MD, Hawkins IR. Superficial bladder cancer: progression and recurrence. J Urol 1983; 130:1083-1086.
6. Cartwright RA: Screening workers exposed to suspect bladder carcinogens. J Occup Med 1986; 28:1017-1019.
7. Lopez-Beltran A, Montironi R. Non-invasive urothelial neoplasms: according to the most recent WHO classification. Eur Urol 2004; 46:170-176.
8. Koenig F, Jung K, Schnorr D, Loening SA. Urinary markers of malignancy. Clin Chim Acta 2000; 297:191-205.
9. **Staack A.** Stromal-epitheliale Wechselwirkungen am Rekombinationsmodell aus normalem und neoplastischem Harnblasengewebe. Urologe A 2002, Suppl. 1; 41:54.
10. Chen WT. Membrane proteases: roles in tissue remodeling and tumour invasion. Curr Opin Cell Biol 1992; 4:802-809.
11. Ecke TH, Schlechte HH, Schulze G, Lenk SV, Loening SA. Four tumour markers for urinary bladder cancer--tissue polypeptide antigen (TPA), HER-2/neu (ERB B2), urokinase-type plasminogen activator receptor (uPAR) and TP53 mutation. Anticancer Res 2005; 25:635-641.

12. **Staack A**, Badendieck S, Schnorr D, Loening SA, Jung K. Plasma MMP2 in combination with MMP9 and TIMP1 improves the non-invasive detection of transitional cell carcinoma of the bladder. *BMC Urology* 2006, in Revision.
13. Gontero P, Banisadr S, Frea B, Brausi M. Metastasis markers in bladder cancer: a review of the literature and clinical considerations. *Eur Urol* 2004; 46:296-311.
14. Bubendorf L, Grilli B, Sauter G, Mihatsch MJ, Gasser TC, Dalquen P. Multiprobe FISH for enhanced detection of bladder cancer in voided urine specimens and bladder washings. *Am J Clin Pathol* 2001; 116:79-86.
15. van Rhijn BW, van der Poel HG, van der Kwast TH. Urine markers for bladder cancer surveillance: a systematic review. *Eur Urol* 2005; 47:736-748.
16. Baskin LS, Hayward SW, Young P, Cunha GR. Role of mesenchymal-epithelial interactions in normal bladder development. *J Urol* 1996; 156:1820-1827.
17. Hayashi N, Cunha GR. Mesenchyme-induced changes in the neoplastic characteristics of the Dunning prostatic adenocarcinoma. *Cancer Res* 1991; 51:4924-4930.
18. **Staack A**, Alexander T, Merguerian P, Terris MK. Organ and species specificity in the stimulation of transitional epithelial cell growth by fibroblasts. *Eur Urol* 2001; 39:471-477.
19. Liotta LA, Rao CN. Tumor invasion and metastasis. *Monogr Pathol* 1986; 27:183-192.
20. Polette M, Nawrocki-Raby B, Gilles C, Clavel C, Birembaut P. Tumour invasion and matrix metalloproteinases. *Crit Rev Oncol Hematol* 2004; 49:179-186.
21. Corzo C, Corominas JM, Tusquets I, Salido M, Bellet M, Fabregat X, Serrano S, Sole F. The MYC oncogene in breast cancer progression: from benign epithelium to invasive carcinoma. *Cancer Genet Cytogenet* 2006; 165:151-156.

22. Yim HW, Slebos RJ, Randell SH, Umbach DM, Parsons AM, Rivera MP, Detterbeck FC, Taylor JA. Smoking is associated with increased telomerase activity in short-term cultures of human bronchial epithelial cells. *Cancer Lett* 2006;Mar: Epub ahead of print.
23. Jones TD, Wang M, Eble JN, MacLennan GT, Lopez-Beltran A, Zhang S, Cocco A, Cheng L. Molecular evidence supporting field effect in urothelial carcinogenesis. *Clin Cancer Res* 2005; 11:6512-6519.
24. Bingle L, Brown NJ, Lewis CE. The role of tumour-associated macrophages in tumour progression: implications for new anticancer therapies. *J Pathol* 2002; 196:254-265.
25. Tlsty TD. Stromal cells can contribute oncogenic signals. *Semin Cancer Biol* 2001; 11:97-104.
26. Tlsty TD, Hein PW. Know thy neighbor: stromal cells can contribute oncogenic signals. *Curr Opin Genet Dev* 2001; 11:54-59.
27. van den Hooff A. The role of stromal cells in tumor metastasis: A new link. *Cancer Cells* 1991; 3:186-187.
28. van den Hooff A. Stromal involvement in malignant growth. *Adv Cancer Res* 1988; 50:159-196.
29. Ronnov-Jessen L, Petersen OW, Bissell MJ: Cellular changes involved in conversion of normal to malignant breast: importance of the stromal reaction. *Physiol Rev* 1996; 76:69-125.
30. Grossfeld G, Hayward S, Tlsty T, Cunha G. The role of stroma in prostatic carcinogenesis. *Endocrine-related cancer* 1998; 5:253-270.
31. Tuxhorn JA, Ayala GE, Rowley DR. Reactive stroma in prostate cancer progression. *J Urol* 2001; 166:2472-2483.
32. Kabalin JN, Peehl DM, Stamey TA. Clonal growth of human prostatic epithelial cells is stimulated by fibroblasts. *Prostate* 1989; 14:251-263.
33. Howlett AR, Hodges GM, Rowlatt C. Epithelial-stromal interactions in the adult bladder: urothelial growth, differentiation, and maturation on culture facsimiles of bladder stroma. *Dev Biol* 1986; 118:403-415.

34. Grobstein C. Trans-filter induction of tubules in mouse metanephrogenic mesenchyme. *Experimental Cell Research* 1956; 10:424-440.
35. Leimeister C, Bach A, Woolf AS, Gessler M. Screen for genes regulated during early kidney morphogenesis. *Dev Genet* 1999; 24:273-283.
36. Liu W, Li Y, Hayward S, Cunha G, Baskin L. Diffusible growth factors induce bladder smooth muscle differentiation. *In Vitro Cell Dev Biol* 2000; 36:476-484.
37. Cunha GR. Tissue interactions between epithelium and mesenchyme of urogenital and integumental origin. *Anat Rec* 1972; 172:529-542.
38. Hayward SW, Rosen MA, Cunha GR. Stromal-epithelial interactions in the normal and neoplastic prostate. *Br J Urol* 1997; 79, Suppl 2:18-26.
39. Hayward SW, Haughney PC, Rosen MA, Greulich KM, Weier HU, Dahiya R, Cunha GR. Interactions between adult human prostatic epithelium and rat urogenital sinus mesenchyme in a tissue recombination model. *Differentiation* 1998; 63:131-140.
40. **Staack A**, Hayward SW, Baskin LS, Cunha GR. Molecular, cellular and developmental biology of urothelium as a basis of bladder regeneration. *Differentiation* 2005; 73:121-133.
41. Hayward SW. Approaches to modeling stromal-epithelial interactions. *J Urol* 2002; 168:1165-1172.
42. Wu HY, Baskin LS, Liu W, Li YW, Hayward S, Cunha GR. Understanding bladder regeneration: smooth muscle ontogeny. *J Urol* 1999; 162:1101-1105.
43. Calkins CC, Sloane BF. Mammalian cysteine protease inhibitors: biochemical properties and possible roles in tumor progression. *Biol Chem Hoppe Seyler* 1995; 376:71-80.
44. Henskens YM, Veerman EC, Nieuw Amerongen AV. Cystatins in health and disease. *Biol Chem Hoppe Seyler* 1996; 377:71-86.
45. Schmitt M, Janicke F, Moniwa N, Chucholowski N, Pache L, Graeff H. Tumor-associated urokinase-type plasminogen activator: biological and clinical significance. *Biol Chem Hoppe Seyler* 1992; 373:611-622.

46. Andreasen PA, Kjoller L, Christensen L, Duffy MJ. The urokinase-type plasminogen activator system in cancer metastasis: a review. *Int J Cancer* 1997; 72:1-22.
47. Axelrod JH, Reich R, Miskin R. Expression of human recombinant plasminogen activators enhances invasion and experimental metastasis of H-ras-transformed NIH 3T3 cells. *Mol Cell Biol* 1989, 9(5):2133-2141.
48. Folkman J: Angiogenesis in cancer, vascular, rheumatoid and other disease. *Nat Med* 1995; 1:27-31.
49. Liotta LA, Steeg PS, Stetler-Stevenson WG. Cancer metastasis and angiogenesis: an imbalance of positive and negative regulation. *Cell* 1991; 64:327-336.
50. Blasi F. Urokinase and urokinase receptor: a paracrine/autocrine system regulating cell migration and invasiveness. *Bioessays* 1993; 15:105-111.
51. Blasi F: Molecular mechanisms of protease-mediated tumor invasiveness. *J Surg Oncol Suppl.* 1993; 3:21-23.
52. Bhavarahamurthy V, Schroeder J, Kristiansen G, Roigas J, Denkert C, Johannsen M, Lein M, Loening SA, Schnorr D, Jung K, **Staack A.** Differential gene expression of urokinase-type plasminogen activator and its receptor in human renal cell carcinoma. *Oncol Rep* 2005; 14:777-782.
53. Fazioli F, Blasi F. Urokinase-type plasminogen activator and its receptor: new targets for anti-metastatic therapy? *Trends Pharmacol Sci* 1994; 15:25-29.
54. Bhavarahamurthy V, Schroeder J, Denkert C, Kristiansen G, Schnorr D, Loening SA, Jung K, **Staack A.** In situ gene expression of urokinase-type plasminogen activator and its receptor in transitional cell carcinoma of the human bladder. *Oncol Rep* 2004; 12:909-913.
55. Nicholson BE, Frierson HF, Conaway MR, Seraj JM, Harding MA, Hampton GM, Theodorescu D. Profiling the evolution of human metastatic bladder cancer. *Cancer Res* 2004; 64:7813-7821.

56. Buck MR, Karustis DG, Day NA, Honn KV, Sloane BF. Degradation of extracellular-matrix proteins by human cathepsin B from normal and tumour tissues. *Biochem J* 1992; 282:273-278.
57. Budihna M, Strojan P, Smid L, Skrk J, Vrhovec I, Zupevc A, Rudolf Z, Zargi M, Krasovec M, Svetic B et al: Prognostic value of cathepsins B, H, L, D and their endogenous inhibitors stefins A and B in head and neck carcinoma. *Biol Chem Hoppe Seyler* 1996; 377:385-390.
58. del Re EC, Shuja S, Cai J, Murnane MJ. Alterations in cathepsin H activity and protein patterns in human colorectal carcinomas. *Br J Cancer* 2000; 82:1317-1326.
59. Friedrich B, Jung K, Lein M, Tuerk I, Rudolph B, Hampel G, Schnorr D, Loening SA. Cathepsins B, H, L and cysteine protease inhibitors in malignant prostate cell lines, primary cultured prostatic cells and prostatic tissue. *Eur J Cancer* 1999; 35:138-144.
60. Eijan AM, Sandes EO, Riveros MD, Thompson S, Pasik L, Mallagrino H, Celeste F, Casabe AR. High Expression of Cathepsin B in Transitional Bladder Carcinoma Correlates with Tumor Invasion. *Cancer* 2003; 98:262-268.
61. **Staack A**, Tolic D, Kristiansen G, Schnorr D, Loening SA, Jung K. Expression of cathepsins B, H, and L and their inhibitors as markers of transitional cell carcinoma of the bladder. *Urology* 2004; 63:1089-1094.
62. Szajda SD, Darewicz B, Kudelski J, Chlabcz M, Domel T, Chabielska E, Skrzyliewski Z. [Cancer procoagulant and cathepsin D activity in blood serum in patients with bladder cancer]. *Pol Merkuriusz Lek* 2005; 18:651-653.
63. **Staack A**, Koenig F, Daniltchenko D, Hauptmann S, Loening SA, Schnorr D, Jung K: Cathepsins B, H, and L activities in urine of patients with transitional cell carcinoma of the bladder. *Urology* 2002; 59:308-312.
64. Ioachim E, Charchanti A, Stavropoulos N, Athanassiou E, Bafa M, Agnantis NJ: Expression of cathepsin D in urothelial carcinoma of the urinary bladder: an immunohistochemical study including correlations with

- extracellular matrix components, CD44, p53, Rb, c-erbB-2 and the proliferation indices. *Anticancer Res* 2002; 22:3383-3388.
65. Savelieva E, Belair CD, Newton MA, DeVries S, Gray JW, Waldman F, Reznikoff CA: 20q gain associates with immortalization. 20q13.2 amplification correlates with genome instability in human papillomavirus 16 E7 transformed human uroepithelial cells. *Oncogene* 1997; 14:551-560.
 66. Orntoft TF, Wolf H. Molecular alterations in bladder cancer. *Urol Res* 1998; 26:223-233.
 67. Droller MJ. Markers in bladder cancer--issues to consider. *J Urol* 1998; 160:2009-2010.
 68. Moch H, Sauter G, Mihatsch MJ, Gudat F, Epper R, Waldman FM. p53 but not erbB-2 expression is associated with rapid tumor proliferation in urinary bladder cancer. *Hum Pathol* 1994; 25:1346-1351.
 69. Czerniak B, Chaturvedi V, Li L, Hodges S, Johnston D, Roy JY, Luthra R, Logothetis C, Von Eschenbach AC, Grossman HB et al. Superimposed histologic and genetic mapping of chromosome 9 in progression of human urinary bladder neoplasia: implications for a genetic model of multistep urothelial carcinogenesis and early detection of urinary bladder cancer. *Oncogene* 1999; 18:1185-1196.
 70. Knowles MA. Molecular genetics of bladder cancer. *Brit J Urol* 1995; 75 Suppl.1:57-66.
 71. Stoehr R, Krieg RC, Knuechel R, Hofstaedter F, Pilarsky C, Zaak D, Schmitt R, Hartmann A. No evidence for involvement of beta-catenin and APC in urothelial carcinomas. *Int J Oncol* 2002; 20:905-911.
 72. Reznikoff CA, Belair CD, Yeager TR, Savelieva E, Blelloch RH, Puthenveett JA, Cuthill S. A molecular genetic model of human bladder cancer pathogenesis. *Semin Oncol* 1996; 23:571-584.
 73. Reznikoff CA, Yeager TR, Belair CD, Savelieva E, Puthenveett JA, Stadler WM. Elevated p16 at senescence and loss of p16 at immortalization in human papillomavirus 16 E6, but not E7, transformed human uroepithelial cells. *Cancer Res* 1996; 56:2886-2890.

74. Urist MJ, Di Como CJ, Lu ML, Charytonowicz E, Verbel D, Crum CP, Ince TA, McKeon FD, Cordon-Cardo C. Loss of p63 Expression Is Associated with Tumor Progression in Bladder Cancer. *Am J Pathol* 2002; 161:1199-1206.
75. Thiery JP. Epithelial-mesenchymal transitions in tumour progression. *Nat Rev Cancer* 2002, 2:442-454.
76. Morton RA, Jr., Ewing CM, Watkins JJ, Isaacs WB. The E-cadherin cell-cell adhesion pathway in urologic malignancies. *World J Urol* 1995; 13:364-368.
77. Dogic D, Rousselle P, Aumailley M. Cell adhesion to laminin 1 or 5 induces isoform-specific clustering of integrins and other focal adhesion components. *J Cell Sci* 1998; 111:793-802.
78. Bissell MJ, Radisky D. Putting tumours in context. *Nat Rev Cancer* 2001; 1:46-54.
79. Xu G, Hartman TL, Wargo H, Turpin JA, Buckheit RW, Cushman M. Synthesis of alkenyldiaryl methane (ADAM) non-nucleoside HIV-1 reverse transcriptase inhibitors with non-identical aromatic rings. *Bioorg Med Chem* 2002; 10:283-290.
80. Yano A, Nakamoto T, Hashimoto K, Usui T. Localization and expression of tissue inhibitor of metalloproteinase-1 in human urothelial cancer. *J Urol* 2002; 167:729-734.
81. Davies B, Waxman J, Wasan H, Abel P, Williams G, Krausz T, Neal D, Thomas D, Hanby A, Balkwill F. Levels of matrix metalloproteases in bladder cancer correlate with tumor grade and invasion. *Cancer Res* 1993; 53:5365-5369.
82. Ottamasathien S, Williams K, Franco EO, Thomas JC, Saba K, Bhowmick NA, **Staack A**, DeMarco RT, Brocck III JW, Hayward SW, Pope IV JC. Cultured bladder epithelium can interact with bladder mesenchyme to form bladder tissue in a tissue recombination model. *Journal of Urology* 2006; Submitted.

83. Mitchell SE, Abel PD, Lalani E-N, Hayward SW. Epithelial-mesenchymal interactions in prostate cancer. In: Prostata cancer: Scientific and clinical aspects Bridging the gap. Edited by Abel PD, Lalani, E-N, (eds.): Imperial College Press, London; 2003: 421-454.
84. **Staack A**, Donjacour AA, Brody J, Cunha GR, Carroll P. Mouse urogenital development: a practical approach. *Differentiation* 2003; 71:402-413.
85. **Staack A**, Kassis AP, Olshen A, Wang Y, Wu D, Carroll PR, Grossfeld GD, Cunha GR, Hayward SW. Quantitation of apoptotic activity following castration in human prostatic tissue *in vivo*. *Prostate* 2003; 54:212-219.
86. Cunha GR, Sekkingstad M, Meloy BA. Heterospecific induction of prostatic development in tissue recombinants prepared with mouse, rat, rabbit and human tissues. *Differentiation* 1983; 24:174-180.
87. Aboseif S, El-Sakka A, Young P, Cunha G. Mesenchymal reprogramming of adult human epithelial differentiation. *Differentiation* 1999; 65:113-118.
88. Li Y, Liu W, Hayward SW, Cunha GR, Baskin LS. Plasticity of the urothelial phenotype: effects of gastro-intestinal mesenchyme/stroma and implications for urinary tract reconstruction. *Differentiation* 2000; 66:126-135.
89. Hayashi N, Cunha GR, Wong YC. Influence of male genital tract mesenchymes on differentiation of Dunning prostatic adenocarcinoma. *Cancer Res* 1990; 50:4747-4754.
90. Liotta LA, Rao CN, Wewer UM. Biochemical interactions of tumor cells with the basement membrane. *Annu Rev Biochem* 1986; 55:1037-1057.
91. Evans CP, Elfman F, Parangi S, Conn M, Cunha G, Shuman MA. Inhibition of prostate cancer neovascularization and growth by urokinase-plasminogen activator receptor blockade. *Cancer Res* 1997; 57:3594-3599.
92. Ueda M. [A study on cathepsin B-like substance in patients with urological cancer]. *Nippon Hinyokika Gakkai Zasshi* 1993; 84:355-363.

93. Nakanishi K, Kawai T, Torikata C, Aurues T, Ikeda T. Urokinase-type plasminogen activator, its inhibitor, and its receptor in patients with upper urinary tract carcinoma. *Cancer* 1998; 82:724-732.
94. Alberti C. From the intestinal neobladder to the bioartificial bladder: remarks on some biological implications. *Minerva Urol Nefrol* 2000; 52:219-222.
95. Alberti C, Tizzani A, Piovano M, Greco A. What's in the pipeline about bladder reconstructive surgery? Some remarks on the state of the art. *Int J Artif Organs* 2004; 27:737-743.