

## 6. Literatur

1. **Abraham SN, Sun D, Dale JB, Beachey EH (1988).**  
Conservation of the D-mannose-adhesion protein among type 1 fimbriated members of the family Enterobacteriaceae. Nature **336**: 682–684.
2. **Alouf J (1987).**  
Perspectives actuelles sur les vaccins contre les caries dentaires. Encyclop Med-Chir **4**: 31–33.
3. **Appelbaum BG, Holt SC, Rosan B (1979).**  
In vitro studies of dental plaque formation. Adsorption of oral streptococci to hydroxyapatite. Infect Immun **25**: 717–728.
4. **Armstrong SJ, Dimmock NJ (1992).**  
Neutralization of influenza virus by low concentrations of hemagglutinin-specific polymeric immunoglobuline A inhibits viral fusion activity, but activation of the ribonucleoprotein is also inhibited. J Virol **66**: 3823–3832.
5. **Arnold RR, Cole MF, Prince S, McGee JR (1977).**  
Secretory IgM antibodies to Streptococcus mutans in subjects with selective IgA deficiency. Clin Immunol Immunopathol **8**: 475–486.
6. **Atkinson JC, Ericson T, Fox PC, Gandara BK, Malamud D, Mandel ID, Navazesh M, Tabak LA (1993).**  
Guidelines for saliva nomenclature and collection. In: Malamud D, Tabak L (Hrsg): Saliva as a diagnostic fluid. Annals of the New York academy of science: 694–696.
7. **Axelsson P, Lindhe J (1978).**  
Effect of controlled oral hygiene procedures on caries and periodontal disease in adults. J Clin Periodontol **5**: 133–151.
8. **Baum BJ (1981).**  
Evaluation of stimulated parotid saliva flow rate in different age groups. J Dent Res **60**: 1292–1296.

9. **Baum BJ, Yeh CK, Kousvelari EE (1990).**  
Influence of beta-adrenergic stimulation on glycosylation of a major, secretory N-linked glycoprotein from rat parotid salivary gland. Arch Oral Biol **35**: 201–207.
10. **Ben-Aryeh HM, Szargel R, Gutman D (1987).**  
Whole-saliva secretion rates in old and young healthy subjects. J Dent Res **63**: 1147–1148.
11. **Besredka A (1919).**  
De la vaccination contre les états typhoïdes par la voie buccale. Ann Inst Pasteur: **33**: 882–903.
12. **Birkhed D, Heintze U (1989).**  
Salivary secretion rate, buffer capacity, and pH. In: Tenovuo JO (Hrsg): Human saliva: Clinical chemistry and microbiology 1: CRC Press, Inc, Boca Raton, Flo, USA.
13. **Blanchard SB, Cox SE, Ebersole JL (1991).**  
Salivary IgA responses to *Porphyromonas gingivalis* in the cynomolgus monkey. Oral Microbiol Immunol **6**: 341–349.
14. **Börsch G (1984).**  
Der Gastrointestinaltrakt als Immunorgan. Klin Wschr **62**: 699–709.
15. **Bowen WH, Cohen B, Cole MF (1975).**  
Immunization against dental caries. Brit Dent J **139**: 45–58.
16. **Brandtzaeg P (1973).**  
Structure, synthesis and external transfer of mucosal immunoglobulins. Ann Immunol **124**: 417–438.
17. **Brandtzaeg P (1974).**  
Mucosal and glandular distribution of immunoglobulin components: differential localization of free and bound SC in secretory epithelial cells. J Immunol **112**: 1553–1559.

18. **Brandtzaeg P (1983).**  
The oral secretory immune system with special emphasis on its relation to dental caries. Proc Finn Dent Soc **79**: 71–84.
19. **Brandtzaeg P (1985).**  
Role of J-chain and secretory component in receptor-mediated glandular and hepatic transport of immunoglobulins in man. Scand J Immunol **22**: 111–146.
20. **Brandtzaeg P (1988).**  
Role of immune system – dangers of a nonholistic approach in explaining health and disease. In: Guggenheim B. (Hrsg.): Periodontology Today, proceedings of the Conference "Periodontology Today" held in Zürich, May 6 – 8, 1988, on the occasion of the 20th anniversary of the Foundation of the European Research Group for Oral Biology (ERGOB), Zürich; Karger, Basel: 196–208.
21. **Brandtzaeg P (1989).**  
Overview of the mucosal immune system. Curr. Top. Microbiol Immunol **146**: 13–25.
22. **Brandtzaeg P (1995).**  
Salivary glands and the mucosal immune system. Eur J Oral Science **103**: 21–22.
23. **Bratthall D, Ellen RP (1982).**  
Determination of immunoglobulin A in saliva by immunobead enzyme-linked immunosorbent assay: comparison with single radial immunodiffusion. J Clin Microbiol **16**: 766–769.
24. **Buddecke E (1981).**  
Biochemische Grundlagen der Zahnmedizin. De Gruyter, Berlin.
25. **Bullen JJ, Leight L (1972).**  
Iron-binding proteins in milk and resistance to Escherichia coli infection in infants. Brit Med **1**: 69–75.

- 26. Busscher HJ, Weerkamp AH (1987).**  
Specific and nonspecific interactions in bacterial adhesion to solid substrata. FEMS Microbiol Lett **46**: 165–173.
- 27. Butler JE, Peterman JH, Joshi KS, Satam M, Challacombe SJ (1990).**  
Humoral immunity in root caries in an elderly population. Oral Microbiol Immunol **5**: 98–107.
- 28. Camling E, Kohler B (1987).**  
Infection with the bacterium *Streptococcus mutans* in the salivary IgA antibodies in mothers and their children. Arch Oral Biol **32**: 817–823.
- 29. Carlen A, Olsson J (1995).**  
Monoclonal antibodies against a high-molecular-weight agglutinin block adherence to experimental pellicles on hydroxylapatite and aggregation of *Streptococcus mutans*. J Dent Res **74**: 1040–1047.
- 30. Carlson AJ, Crittenden AL (1910).**  
The relation of ptyalin concentration to the diet and to the rate of secretion of the saliva. Amer J Physiol **26**: 169.
- 31. Carlsson J (1989).**  
Microbiology of plaque associated periodontal disease. In: Lindhe J (Hrsg.), Textbook of Clinical Periodontologie, Munksgaard, Copenhagen (Denmark): 129–152.
- 32. Challacombe SJ, Lehner T (1973).**  
Antibodies of an extract of *Streptococcus mutans*, containing glycosyltransferase activity, related to dental caries in man. Arch Oral Biol **18**: 657–668.
- 33. Challacombe SJ, Lehner T (1979).**  
Salivary antibody responses in Rhesus monkeys immunized with *Streptococcus mutans* by the oral submucosal or subcutaneous routes. Arch Oral Biol **24**: 917–925.
- 34. Chang HS, Walsh LJ, Freer TJ (1999).**  
The effect of orthodontic treatment on salivary flow, pH, buffer capacity, and levels of *mutans streptococci* and *lactobacilli*. Aust Orthod J **15**: 229–34.

- 35. Childers NK, Li F, Dasanayake AP, Kirk K, Michalek SM (2002).**  
Humans immunized with Streptococcus mutans antigens by mucosal routes. J Dent Res **81**: 48–52.
- 36. Childers NK, McGhee JR (1989).**  
Molecular mechanisms of immunoglobulin A defence. Annu Rev Microbiol **43**: 503–536.
- 37. Cisar JO, Curl SH, Vatter AE, Sandberg AL, Siraganian RP (1981).**  
Detection and localization of a Lectin on Actinomyces viscosus T14V by monoclonal antibodies. Immunol **127**: 1318–1322.
- 38. Clark WB, Gibbons RJ (1978).**  
Comparative estimates of bacterial affinities and adsorption sites on hydroxyapatite surfaces. Infect Immun **19**: 846–853.
- 39. Cole MF, Emilson CG, Hsu SD, Li SH, Bowen WH (1984).**  
Effect of peroral immunization of humans with Streptococcus mutans on induction of salivary and serum antibodies and inhibition of experimental infection. Infect Immun **46**: 703–709.
- 40. Cortesy B, Spertini F (1999).**  
Secretory immunoglobulin A: from mucosal protection to vaccine development. Biol Chem **380**: 1251–1262.
- 41. Coudert JL, Lissac M, Parret J (1986).**  
A new appliance for the collection of human submandibular saliva. Archs Oral Biol **31**: 411–413.
- 42. Czerkinsky CP, Michalek SM, Jackson S, Russel MW, Moldoveanu Z, McGhee JR, Mestecky JR (1987).**  
IgA antibody producing cells in peripheral blood after antigen ingestions: Evidence for a common mucosal immune system in humans. Proc Natl Acad Sci USA **84**: 2449–2453.
- 43. Dahlen G, Baelum V, Wen-Min L, Fejerskov O, Xia C (1993).**  
Six-year progression of destructive periodontal disease in 2 subgroups of elderly Chinese. J Periodontol **64**: 891–899.

- 44. Dawes C (1969).**  
The effect of flow rate and duration of stimulation on the concentrations of protein and the main electrolytes in human parotid saliva. Archs Oral Biol **14**: 277–294.
- 45. Delacroix DL, Rambaud JC, Vaerman JP (1982).**  
IgA subclasses in various secretions and in serum. Immunology **47**: 383–385.
- 46. Demuth DR, Golub EE, Malamud D (1990).**  
Streptococcal-host interactions. Structural and functional analysis of a Streptococcus sanguis receptor for a human salivary glycoprotein. J Biol Chem. **265**: 7120–7126.
- 47. Dimitriou LS, Doherty M (2002).**  
Circadian effects on the acute responses of salivary cortisol and IgA in well trained swimmers. Br J Sports Med **36**: 260–264.
- 48. Doyle RJ, Nesbitt WE, Taylor KG (1982).**  
On the mechanism of adherence of Streptococcus sanguis to hydroxyapatite. FEMS Microbiol Lett **15**: 1–5.
- 49. Dreizen SB, Handler S, Levy BM (1976).**  
Radiation-induced xerostomia in cancer patients. Effect on salivary and serum electrolytes. Cancer **38**: 273–278.
- 50. Dudgeon DJ, Berg J (2002).**  
Dental plaque as a biofilm and new research on biofilm removal by power toothbrushes. Comp Contin Educ Dent **23**: 3–6.
- 51. Dzink JL, Gibbons RJ, Childs WC, Socransky SS (1989).**  
The predominant cultivable microbiota of crevicular epithelial cells. Oral Microbiol Immunol **4**: 1–5.
- 52. Ehrlich P (1891).**  
Experimentelle Untersuchung über Immunität. Dtsch Med Wschr **17**: 1218–1219.

- 53. Emini EA, Schleif WA, Lewis JA, Davide JP, Lee DR, Kessler J, Conley S, Matsushita S, Ptney SD (1990).**  
Antibody-mediated in vitro neutralization of human immunodeficiency virus type1 abolishes infectivity for chimpanzees. Virology **64**: 3674–3678.
- 54. Emmings FG, Evans RT, Genco RJ (1975).**  
Antibody response in the parotid fluid and serum of rhesus monkeys (*Macaca fascicularis*) after local immunization with *Streptococcus mutans*. Infect Immun **12**: 281–292.
- 55. Ericson YH (1978).**  
Individual diagnosis, prognosis and counselling for caries prevention. Caries Res **12**: 94.
- 56. Evans RT, Emmings FG, Genco RJ (1975).**  
Prevention of *Streptococcus mutans* infection of tooth surfaces by salivary antibody in rhesus monkeys (*Macaca fascicularis*). Infect Immun **12**: 293–302.
- 57. Everhardt DL, Carter W H, Moss S (1977).**  
Evaluation of dental caries experience and salivary IgA in children. Caries Res **11**: 211–215.
- 58. Ewe, K (1987)**  
Effect of bisacodyl on intestinal electrolyte and water net transport and transit. Perfusion studies in men. Digestion **37**: 247–253.
- 59. Fontana MD, Stookey GK, Gregory RL (1999).**  
Intranasal immunization against dental caries with a *Streptococcus mutans*-enriched fimbrial preparation. Clin Diag Lab Immunol **6**: 405–409.
- 60. Frandsen EV, Theilade E, Ellegaard B, Kilian M (1986).**  
Proportions and identity of IgA–1 degrading bacteria in periodontal pockets from patients with juvenile and rapid progressive periodontitis. J Periodontal Res **21**: 613–623.

- 61. Fukuizumi TI, Tsuisawa T, Uchiyama C (1997).**  
Tonsillar application of killed *Streptococcus mutans* induces specific antibodies in rabbit saliva and blood plasma without inducing a cross-reacting antibody to human cardiac muscle. Infect Immun **65**: 4558–4563.
- 62. Fukuizumi TI, Tsujisawa T, Uchiyama C (1999).**  
Tonsillar application of formalin-killed cells of *Streptococcus sobrinus* reduces experimental dental caries in rabbits. Infect Immun **67**: 426–428.
- 63. Fukuizumi TI, Tsujisawa T, Uchiyama C (2000).**  
*Streptococcus sobrinus* antigens that react to salivary antibodies induced by tonsillar application of formalin-killed *Streptococcus sobrinus* in rabbits. Infect Immun **68**: 725–731.
- 64. Gemmel E, Seymour GJ (1992).**  
Different responses in B cells induced by *Porphyromonas gingivalis* and *Fusobacterium nucleatum*. Arch Oral Biol **37**: 565–573.
- 65. Genco RJ, Slots J (1984).**  
Host responses in periodontal disease. J Dent Res **63**: 441–451.
- 66. Ghetie VW, Scott D, Uhr JW, Vitetta ES (1992).**  
A CD4-derived peptide carrier blocks acute HIV-1 infection in vitro and binds to gp 120 in the presence of Walter-Reed stage 1-6 HIV+ sera. AIDS Res Hum Retroviruses **8**: 1945–1948.
- 67. Gibbons RJ (1975).**  
Bacterial adherence in oral microbial ecology. Ann Rev Microbiol **29**: 19–44.
- 68. Gibbons RJ (1989).**  
Bacterial adhesion to oral tissues: A model for infectious disease. J Dent Res **68**: 750–760.
- 69. Gibbons RJ, Hay DI (1986).**  
Strains of *Streptococcus mutans* and *Streptococcus sobrinus* attach to different pellicle receptors. Infect Immun **52**: 555–561.



- 70. Gibbons RJ, Hay DI (1988).**  
Human salivary acidic proline-rich proteins and statherin promote the attachment of *Actinomyces viscosus* LY 7 to apatitic surfaces. Infection & Immunity **56**: 439–445.
- 71. Gibbons RJ, Hay DI (1989).**  
Adsorbed salivary acidic proline-rich proteins contribute to the adhesion of *Streptococcus mutans* JBP to apatitic surfaces. J Dent Res **68**: 1303–1307.
- 72. Gibbons RJ, Moreno EC (1985).**  
Contribution of stereochemical interactions in the adhesion of *Streptococcus sanguis* C5 to experimental pellicle. J Dent Res **64**: 96–101.
- 73. Gibbons RJ, Qureshi JV (1979).**  
Inhibition of adsorption of *Streptococcus mutans* strains to saliva-treated hydroxyapatite by galactose and certain amines. Infect Immun **26**: 1214–1217.
- 74. Gibbons RJ, Schlesinger DH (1991).**  
Delineation of a segment of adsorbed salivary acidic proline-rich proteins which promotes adhesion of *Streptococcus gordonii* to apatitic surfaces. Infect Immun **59**: 2948–2954.
- 75. Gomez EO, Saint-Martin B, Boeck L, Diaz-Sanchez V, Bourges H (1993).**  
Hormonal regulation of the secretory IgA system: estradiol- and progesterone-induced changes in sIgA in parotid saliva along the menstrual cycle. Am J Reprod Immunol **29**: 219–223.
- 76. Grahn ET, Lehtonene OP, Eerola E, Vilja P (1988).**  
Antimicrobial systems of human whole saliva in relation to dental caries, cariogenic bacteria, and gingival inflammation in young adults. Acta Odontol Scand **46**: 67–74.
- 77. Greenstein GC, Polson AM (1981).**  
Histologic characteristics associated with bleeding after probing and visual signs of inflammation. J Periodontol **52**: 420–425.

- 78. Gregory RL, Filler SJ (1987).**  
Protective secretory immunoglobulin A antibodies in humans following oral immunization with *Streptococcus mutans*. Inf Immun **55**: 2409–2415.
- 79. Hägewald S (1991).**  
Experimentelle Untersuchung zum Verhalten sekretorischer Antikörper nach oraler Immunisierung. Zahnmed Diss, Berlin.
- 80. Hägewald S, Köttgen E, Kage A (2000).**  
Total IgA and Porphyromonas gingivalis-reactive IgA in the saliva of patients with generalised early-onset periodontitis. Eur J Oral Sci **108**: 147–153.
- 81. Hägewald S, Steinrücke M, Bernimoulin JP, Köttgen E, Kage A (1995).**  
Secretions and IgA levels of glandwise collected saliva in rapidly progressive periodontitis. Eur J Oral Sci **103**: 23.
- 82. Hajishengallis GK, Koga T, Russell MW (1995).**  
Mucosal immunization with a bacterial protein antigen genetically coupled to cholera toxin A2/B subunits. Immunol **154**: 4322–4332.
- 83. Hajishengallis GK, Michalek SM (1998).**  
Comparison of an adherence domain and a structural region of *Streptococcus mutans* antigen I/II in protective immunity against dental caries in rats after intranasal immunization. Infect Immun **66**: 1740–1743.
- 84. Hajishengallis GK, Michalek SM (1999).**  
Current status of a mucosal vaccine against dental caries. Oral Microbiol Immunol **14**: 1–20.
- 85. Hajishengallis GK, Russell MW (1994).**  
Affinity and specificity of the interactions between *Streptococcus mutans* antigen I/II and salivary components. Dent Res **73**: 1493–1502.
- 86. Hansen BU, Henricsson V, Larsson A, Manthorpe R, Warfvinge G (1991).**  
Autoimmun thyroiditis and primary Sjogren's syndrome: clinical and laboratory evidence of the coexistence of the two diseases. Cli Exp Rheumatol **9**: 137–141.

- 87. Harada HK, Tokumoto Y, Yui S, Koyama F, Kochibe N, Endo T, Kobata A (1987).**  
Systematic fractionation of oligosaccharides of human immunoglobulin G by serial affinity chromatography on immobilized lectin columns. Anal Biochem **164**: 374–381.
- 88. Harding JB, Marsh C, Jolliff CR (1980).**  
Salivary antibodies in acute gingivitis. J Periodontol **51**: 63–69.
- 89. Harokopakis E, Hajishengallis G, Michalek SM (1998)**  
Effectiveness of liposomes possessing surface-linked recombinant B subunit of cholera toxin as an oral antigen delivery system. Infect Immun **66**: 4299–4304.
- 90. Heft MW, Baum BJ (1984).**  
Unstimulated and stimulated salivary flow rate in individuals of different ages. J Dent Res **63**: 1182–1185.
- 91. Henskens YM, van der Weijden FA, van den Keijbus PA, Veerman EC, Timmerman MF, van der Velden U, Amerongen AV (1996).**  
Effect of periodontal treatment on the protein composition of whole and parotid saliva. J Periodontol **67**: 205–212.
- 92. Hocini HI, Bouvet JP, Pillot J (1993).**  
Unexpected high levels of some presumably protective secretory immunoglobulin A antibodies to dental plaque bacteria in salivas of both caries-resistant and caries-susceptible subjects. Infect Immun **61**: 3597–3604.
- 93. Houte J van, Gibbons RJ, Banghart S (1970).**  
Adherence as a determinant of the presence of *Streptococcus salivarius* and *Streptococcus sanguis* on the tooth surface. Arch Oral Biol **15**: 1025.
- 94. Jalil RA, Ashley FP, Wilson RF (1992).**  
The relationship between 48-h dental plaque accumulation in young human adults and the concentration of hypothiocyanite, 'free' and 'total' lysozyme, lactoferrin and secretory immunoglobulin A in saliva. Arch Oral Biol **37**: 23–28.

- 95. Jalil RA, Ashley FP, Wilson RF, Wagaiyu EG (1993).**  
Concentrations of thiocyanate, hypothiocyanate, ‚free‘ and ‚total‘ lysozyme, lactoferrin and secretory IgA in resting and stimulated whole saliva of children aged 12–14 years and the relationship with plaque accumulation and gingivitis. *J Periodontal Res* **28**: 130–136.
- 96. Jenkinson HF, Lamont RJ (1997).**  
Streptococcal adhesion and colonization. *Crit Rev Oral Biol Med* **8**: 175–200.
- 97. Jespersgaard CH, Huang Y, Russell MW, Smith DJ, Michalek SM (1999).**  
Protective Immunity against *Streptococcus mutans* infection in mice after intranasal immunization with the glucan-binding region of *S. mutans* glucosyltransferase. *Infect Immun* **67**: 6543–6549.
- 98. Kage A (1998).**  
Glykanseitenketten als humorale Schutzfaktoren in der Mundhöhle-Pathobiochemie und klinische Relevanz. *Habilitationsschrift, Charité, Humboldt-Universität Berlin*.
- 99. Kage A, Purucker P (1998).**  
Local metronidazole application in maintenance patients. Clinical and microbiological evaluation. *J Periodontol* **69**: 1148–1154.
- 100. Kashket SG, Ebersole JL (1983).**  
The effect of prolonged stimulation of salivary flow on bacterial reactive factors. *J Dent Res* **62**: 331–335.
- 101. Katz JH, Buckner GP, Richardson GJ, Russell MW, Michalek SM (1993).**  
Protective salivary Immunglobulin A responses against *Streptococcus mutans* infection after intranasal immunization with *S. mutans* Antigen I/II coupled to the B subunit of cholera toxin. *Infect Immun* **61**: 1964–1971.
- 102. Kerr AC (1961).**  
The physiological regulation of salivary secretions in man. A study of the response of human salivary glands to reflex stimulation. Pergamon Press, Oxford, *International Series of Monographs on Oral Biology*. **1**

- 103. Kett KB, Radl J, Haaijman JJ (1986).**  
Different subclass distribution of IgA-producing cells in human lymphoid organs and various secretory tissues. Immunol **136**: 3631–3635.
- 104. Kilian M (1981).**  
Degradation of immunoglobulin A1, A2 and G by suspected principal periodontal pathogens. Infect Immun **34**: 757–765.
- 105. Kilian M, Fejerskov O, Thylstrup A (1979).**  
Effects of fluoride on the initial colonization of teeth in vivo. Caries Res **13**: 319–329.
- 106. Kilian M, Russel MW (1988).**  
Defense mechanisms involving Fc-dependent functions of immunoglobulin A, and their subversion by bacterial IgA proteases. Microbiol Rev **52**: 296–303.
- 107. Klein J (1991).**  
Immunologie. VCH, Weinheim.
- 108. Kocourek JH (1981).**  
Defining a lectin. Nature **290**: 188.
- 109. König K (1987).**  
Karies und Parodontopathien. Thieme Verlag, Stuttgart.
- 110. Korsrud FR, Brandtzaeg P (1980).**  
Quantitative immunohistochemistry of immunoglobulin-and J-chain-producing cells in human parotid and submandibular salivary glands. Immunology **39**: 129–140.
- 111. Kousvelari EB, Murty L, Baum BJ (1988).**  
N-linked protein glycosylation in the rat parotid gland during aging. Mech Ageing Dev **42**: 173–181.
- 112. Krasse B, Gahnberg L, Bratthall D (1978).**  
Antibodies reacting with *Streptococcus mutans* in secretions from minor salivary glands in humans. Adv Exp Med Biol **107**: 349–354.

- 113. Krasse B, Jordan HV (1977).**  
Effect of orally applied vaccines on oral colonization by *Streptococcus mutans* in rodents. Arch Oral Biol **22**: 479–484.
- 114. Lashley KS (1916).**  
Reflex secretion of the human parotid gland. J Exp Psychol **1**: 461.
- 115. Legler DM, Lynch DP, Mestecky J, Schaefer ME, Carson H, Bradley EL (1981).**  
Immunodeficiency disease and dental caries in man. Arch Oral Biol **26**: 905–910.
- 116. Lehner T, Bergmeier LA, Mehlert A, Beard R, Dodd M, Mielnik B, Moore S (1989).**  
Local oral immunization with synthetic peptides induces a dual mucosal IgG and salivary IgA antibody response and prevents colonization of *Streptococcus mutans*. Immunology **67**: 419–424.
- 117. Lehner T, Caldwell J (1980).**  
Immunisation with a purified protein from *Streptococcus mutans* against dental caries in rhesus monkeys. Lancet **1**: 995–996.
- 118. Lehner T, Caldwell J (1986).**  
Local active gingival immunization by a 3,800-molecular-weight streptococcal antigen in protection against dental caries. Infect Immun **52**: 682–687.
- 119. Lehner T, Caldwell J, Smith R (1981).**  
Immunization with purified protein antigens from *Streptococcus mutans* against dental caries in rhesus monkeys. Inf Immun **34**: 407–415.
- 120. Lehner T, Caldwell J, Smith R (1985).**  
Local passive immunization by monoclonal antibodies against streptococcal antigen 1/2 in the prevention of dental caries. Inf Immun **50**: 796–799.
- 121. Lehner T, Challacombe SJ, Caldwell J (1975).**  
Immunological and bacteriological basis for vaccination against dental caries in rhesus monkeys. Nature **254**: 517–520.

- 122. Levine MT, Reddy M, Mandel ID (1985).**  
Nature of salivary pellicles in microbial adherence. Role of salivary mucins. In: Mergenhausen SE, Rosan B (Hrsg.): Molecular basis of oral microbial adhesion. American Society for Microbiology, Washington: 125–130.
- 123. Lie T (1978).**  
Ultrastructural study of early plaque formation. Periodontal Res **13**: 391–409.
- 124. Lie M, Schenck K, Timmermann MF, van der Velden U, van der Weijden GA, Loos BG (2002).**  
Parotid salivary S-IgA antibodies during experimental gingivitis in smokers and non-smokers. J Periodontal Res **37**: 86–92.
- 125. Liljemark WF (1975).**  
Studies on the bacterial components which bind *Streptococcus sanguis* and *Streptococcus mutans* to hydroxyapatite. Arch Oral Biol **20**: 609–615.
- 126. Liljemark WF, Bloomquist CG (1986).**  
In vivo colonization of salivary pellicle by *Haemophilus*, *Actinomyces*, and *Streptococcus* species. Caries Res **20**: 481–497.
- 127. Lindemann RA, Kinder Haake SA, Kjelsden M, Avanesian AB (1996).**  
Effect of oral bacteria on peripheral blood leukocyte interleukin-6 and soluble interleukin-6 receptor production. Oral Microbiol Immunol **11**: 332–336.
- 128. Lindstrom FD, Folke LE (1973).**  
Salivary IgA in periodontal disease. Acta Odontol Scand **31**: 31–34.
- 129. Listgarten M (1976).**  
Structure of the microbial flora associated with periodontal health and disease in man. Periodontol **47**: 1–18.
- 130. Loesche W (1982).**  
Dental caries: A treatable infection. The University of Michigan School of Dentistry, Thomas, Springfield Ill..

- 131. Loesche W (1986).**  
Role of Streptococcus mutans in human dental decay. Microbial Rev **50**: 353–380.
- 132. Lonnerdal B (1985)**  
Biochemistry and physiological function of human milk proteins. Am J Clin Nutr **42**: 1299–1317
- 133. Lyons JB, Pierson MC, Whitelock JM, Birkedal HH (1993).**  
Interleukin-1 beta and transforming growth factor-alpha/epidermal growth factor induce expression of M(r) 95,000 type IV collagenase/gelatinase and interstitial fibroblast-type collagenase by rat mucosal keratinocytes. Biol Chem **268**: 19143–19151.
- 134. Ma JK, Hunjan M, Smith R., Lehner T (1989).**  
Specificity of monoclonal antibodies in local passive immunization against Streptococcus mutans. Clin Exp Immunol **77**: 331–337.
- 135. Ma JK, Lehner T (1990).**  
Prevention of colonization of Streptococcus mutans by topical application of monoclonal antibodies in human subjects. Arch Oral Biol **35**: 115–122.
- 136. Ma JK, Smith R, Lehner T (1987).**  
Use of monoclonal antibodies in local passive immunization to prevent colonization of human teeth by Streptococcus mutans. Infect Immun **55**: 1274–1278.
- 137. Mancini GC, Heremans JP (1965).**  
Immunochemical quantitation of antigens by single radial immunodiffusion. Immunochemistry **2**: 335–345.
- 138. Marcotte H, Lavoie MC (1998).**  
Oral microbial ecology and the role of salivary immunoglobulin A. Microbiol Mol Biol Rev **62**: 71–109.
- 139. Masson PH (1966).**  
Studies on lactoferrin, the iron-binding protein of secretions. In: Peters H (Hrsg.), Protides of the biological fluids, Pergamon, Oxford: 115–124.



- 140. McGhee JM, Webb J, Navia JM, Rahman AF, Legler DW (1975).**  
Effective immunity to dental caries: protection of gnotobiotic rats by local immunization with *Streptococcus mutans*. Immunol **114**: 300–305.
- 141. McNabb PC, Tomasi (1981).**  
Host defense mechanisms at mucosal surfaces. Annu Rev Microbiol **35**: 477–496.
- 142. McPherson AJ, McCoy K, Harriman GR, Odermatt B, Dougan G (2001).**  
IgA production without mu or delta chain expression in developing B cells. Nat Immunol **2**: 625–631.
- 143. McPherson AJ, Sainsbury E, Harriman GR, Hengartner H, Zinkernagel RM (2000).**  
A primitive T cell-independent mechanism of intestinal mucosal IgA response to commensal bacteria. Science **2000** **288**: 2222–2226.
- 144. Melvin J (1991).**  
Saliva and dental disease. Curr Opin Dent **1**: 795–801.
- 145. Mestecky JM (1987a).**  
The common mucosal immune system and current strategies for induction of immune responses in external secretions. Clin Immunol **7**: 265–276.
- 146. Mestecky JM(1987b).**  
Immunoglobulin A (IgA): Molecular and cellular interactions involved in IgA biosynthesis and immune response. Adv Immunol **40**: 153–245.
- 147. Mestecky JM, Arnold RR, Michalek SM, Prince SJ, Babb JL (1978a).**  
Selective induction of an immune response in human external secretions by ingestion of bacterial antigen. Clin Invest **61**: 731–737.
- 148. Mestecky JM, Elson CO (1988).**  
Intestinal IgA system. Immunol Allergy Clin North Amer **8**: 349–368.
- 149. Mestecky JM, Michalek SM, Arnold RR, Crago S, Babb JL (1978b).**  
Concept of the local and common mucosal immune response. Adv Exp Med Biol **107**: 185–198.

- 
- 150. Mestecky JM, Russell MW (1986).**  
IgA subclasses. Monogr Allergy **19**: 277–301.
- 151. Michalek SM, McGhee JR (1977).**  
Effective immunity to dental caries: Passive transfer to rats of antibodies to Streptococcus mutans elicits protection. Inf Immun **17**: 644–650.
- 152. Michalek SM, Mestecky JM, Arnold RR, Bozzo L (1976).**  
Ingestion of Streptococcus mutans induces secretory immunoglobulin A and caries immunity. Science **192**: 1238–1240.
- 153. Mühlemann HR (1984).**  
25 years of Swiss plaque pharmacology. Schweiz. Monatsschr. Zahnmed. **94**: 91–101.
- 154. Mühlemann HR, Son S (1971).**  
Gingival sulcus bleeding – a leading symptom in initial gingivitis. Helv Odontol Acta (Switzerland) **15**: 107–113.
- 155. Münzel M (1976).**  
Die Biochemie der menschlichen Speicheldrüsensekrete. Arch Oto-rhino-Laryng **213**: 209–285.
- 156. Muster TF, Klima A, Purtscher M, Trkola A, Schulz P, Grassauer A, Engelhardt OG, Garcia S, Palese P (1995).**  
Mucosal model of immunization against human immunodeficiency virus type 1 with a chimeric influenza virus. Virology **69**: 6678–6686.
- 157. Myint MM, Odden K, Dobloug J, Schenck K (1997).**  
Salivary IgA-response to bacteria in dental plaque as related to periodontal and HIV infection status. Eur J Oral Sci **105**: 562–570.
- 158. Nair PN, Schroeder HE (1983).**  
Retrograde access of antigens to the minor salivary glands in the monkey Macaca fascicularis. Arch Oral Biol **28**: 145–152.

**159. Navazesh M (1993).**

Methods for collecting saliva. In: Malamud D, Tabak L (Hrsg): Saliva as a diagnostic fluid. Annals of the New York academy of science **694**: 72–77.

**160. Navazesh M, Christensen CM (1982).**

A comparison of whole mouth resting and stimulated salivary measurement procedures. J Dent Res **61**: 1158–1162.

**161. Neeser JG, Woltz A, Brassart D, FryderV, Guggenheim B (1995).**

A 23 kDa membrane glycoprotein bearing NeuNAc alpha 2-3gal beta 1-3GalNAc O-linked carbohydrate chains acts as a receptor for Streptococcus sanguis OMZ 9 on human buccal epithelial cells. Glycobiology **5**: 97–104.

**162. Nyvad BF (1986).**

Formation, composition and ultrastructure of microbial depositions on the tooth surface. In: Thylstrup A, Fejerskov B (Hrsg.): Textbook of cariology. Munksgaard, Copenhagen: 56–73.

**163. Ofek IS (1990).**

Adhesins as lectins: specificity and role in infection. Curr Top Microbiol Immunol **151**: 91–113.

**164. Ofek IM, Sharon N (1977).**

Adherence of escherichia coli to human mucosal cells mediated by mannose receptors. Nature **265**: 623–625.

**165. Olsson JC, Holmberg K (1991).**

Inhibition of Streptococcus mutans adherence to hydroxyapatite with combinations of alkyl phosphates and nonionic surfactants. Caries Res **25**: 51–57.

**166. Orland FB, Harrison RW, Reyniers JA, Trexler PC, Wagner M, Gordon HA, Luckey TD (1954).**

Use of the germfree animal technic in the study of experimental dental caries. Dent Res **33**: 147–174.

- 167. Orland FB, Harrison RW, Reyniers JA, Trexler PC, Ervin RF, Gordon HA, Wagner M (1955).**  
Experimental caries in germ-free rats with enterococci. Am Dent Assoc **50**: 259–272.
- 168. Orstavik D, Brandzaeg P (1975).**  
Secretion of parotid IgA in relation to gingival inflammation and dental caries experience in man. Arch Oral Biol **20**: 701–704.
- 169. Outlaw MA, Dimmock MJ (1990).**  
Mechanisms of neutralization of influenza virus in tracheal epithelial and BHK cells vary according to IgG concentration. Virology **178**: 478–485.
- 170. Pedersen WS, Izutsu K, Mersai T, Truelove E (1985).**  
Age-dependent decrease in human submandibular gland flow rates as measured under resting and post-stimulation conditions. J Dent Res **64**: 822–825.
- 171. Pickerill HP (1919).**  
The prevention of dental caries and oral sepsis. Paul B. Hoeber Inc., New York.
- 172. Pierce-Cretel AD, Montreuil J, Spik G, van Halbeek H, Mutsaers H, Vliegthart JF (1984).**  
Primary structure of n-glycosidically linked sialoglycans of secretory immunoglobulin A from human milk. Eur J Biochem **139**: 337–349.
- 173. Pinkstaff CA (1993).**  
Cytology, histology, and histochemistry of salivary glands. In: I. K. Dobrosielski-Vergona (Hrsg.): Biology of salivary glands. CRC Press, London: 15–38.
- 174. Quigley GA, Hein JW (1962).**  
Comparative cleansing efficiency of manual power brushing. J Am Dent Assoc **65**: 26–29.
- 175. Rateitschak KH, Renggli HH, Mühlemann HR (1984)**  
Parodontologie. Thieme, Stuttgart, 3. Auflage.

- 176. Ranney RR, Tew JG, Welshimer HJ, Palcanis KG, Segreti A (1981).**  
Immunological studies of young adults with severe periodontitis. 1. Medical evaluation and humoral factors. J Periodontal Res **16**: 390–402.
- 177. Renegar KB, Jackson GD, Mestecky J (1998).**  
In vitro comparison of biologic activities of monoclonal monomeric IgA, polymeric IgA, and secretory IgA. J Immunol **160**: 1219–23.
- 178. Rohen JW (1988).**  
Anatomie für Zahnmediziner. Schattauer, Stuttgart – New York, 2.Auflage.
- 179. Roitt IB, Male D (1985).**  
Immunology. Gower Medical Publishing, London.
- 180. Rølla G (1976).**  
Initial colonization of teeth in monkeys as related to diet. Infect Immun **14**: 1022–1027.
- 181. Rotgans JH (1979).**  
The effect of brushing with a toothpaste containing amyloglucosidase and glucose oxidase on dental caries in rats. Caries Res **13**: 127–129.
- 182. Rudney JD, Neuvar EK, Soberay AH, Iverson L (1991).**  
Antimicrobial proteins in human unstimulated whole saliva in relation to each other, and to measures of health status, dental plaque accumulation and composition. Arch Oral Biol **36**: 497–506.
- 183. Russel FG, van Asselt DZ, Merkus FW, Hoefnagels WH (1998).**  
Nasal absorption of hydroxocobalamin in healthy elderly adults. Br J Clin Pharmacol **45**: 83–86.
- 184. Russell MH, Childers NK, Michalek SM (1999).**  
Secretory immunity in defense against cariogenic mutans streptococci. Caries Res **33**: 4–15.

- 185. Saito MO, Ohmura M, Hirasawa M, Takada K, Mega J, Takahashi I, Kiyono H, McGhee JR, Takeda Y, Yamamoto M (2001).**  
Protective immunity anti *Streptococcus mutans* induced by nasal vaccination with surface protein antigen and mutant cholera toxin adjuvant. *J Infect Dis* **183**: 823–826.
- 186. Sandholm L, Gronblad E (1984).**  
Salivary immunoglobulins in patients with juvenile periodontitis and their healthy siblings. *J Periodontol* **55**: 9–12.
- 187. Sato K (1991).**  
Enzyme-linked immunosorbent assay of sIgA in whole saliva of healthy subjects and patients with oral disease. *Bull Tokyo Med Dent Univ* **38**: 9–18.
- 188. Saxer UM (1975).**  
Motivation und Aufklärung. *Schweiz Monatsschr Zahnheilk* **85**: 905–919.
- 189. Schenck KP, Denis C, Tollefsen T (1993).**  
Levels of salivary IgA antibodies reactive with bacteria from dental plaque are associated with susceptibility to experimental gingivitis. *J Clin Periodontol* **20**: 411–417.
- 190. Schiff JF, Underdown BJ (1986).**  
Secretory component as the mucosal transport receptor: separation of physico-chemically analogous human IgA fractions with different receptor-binding capacities. *Mol Immunol* **23**: 45–56.
- 191. Schlegel DR, Taake B (1976).**  
Mouthwash in clinical test. *Zahnärztliche Praxis* **27**: 328–331.
- 192. Schluger SY, Page RC, Johnson RH (1990).**  
Periodontal Diseases. Lea & Febiger, Philadelphia.
- 193. Schneyer LH (1955).**  
Method for the collection of separate submaxillary and sublingual salivas in man. *J Dent Res* **34**: 257–261.

**194. Shaw JH (1954).**

The effect of carbohydrate-free and carbohydrate-low diets on the incidence of dental caries in white rats. *J Nutr* **53**: 151–162.

**195. Sheinfeld JS, Cordon CC, Rogatko A, Fair WR (1989).**

Association of the Lewis blood-group phenotype with recurrent urinary tract infections in woman. *Engl J Med* **320**: 773–777.

**196. Simpson WO, Sarasohn C, Morrison JC, Beachey EH (1980).**

Characteristics of the binding of streptococcal lipoteichoic acid to human oral epithelial cells. *Infect Dis* **141**: 457–462.

**197. Skavril FM (1974).**

Distribution of IgA subclasses in sera and bone marrow plasma cells of 21 normal individuals. *Adv Exp Med Biol* **45**: 433–435.

**198. Smith DJ, Barnes LA, Trantolo D, Wise DL, Taubman MA (2001).**

Facilitated intranasal induction of mucosal and systemic immunity to mutans streptococcal glycosyltransferase peptide vaccines. *Infect Immun* **69**: 4767–4773.

**199. Smith DJ, Taubman MA, Ebersole JL (1980).**

Local and systemic antibody response to oral administration of glycosyltransferase antigen complex. *Infect Immun* **20**: 441–450.

**200. Smith DJ, Taubman MA, Ebersole JL (1982).**

Effects of local immunization with glycosyltransferase on colonization of hamsters by *Streptococcus mutans*. *Infect Immun* **37**: 656–661.

**201. Smith DJ, Taubman MA (1990).**

Effect of local deposition of antigen on salivary immune responses and reaccumulation of mutans *Streptococci*. *J Clin Immunol* **10**: 273–281.

**202. Staat RP, Peyton JC (1984).**

Adherence of oral streptococci: Evidence of nonspecific adsorptions to saliva-coated hydroxyapatite surfaces. *Infect Immun* **44**: 653–659.

- 203. Stephen KW, Lamb AB, McCrossan J (1978).**  
A modified appliance for the collection of human submandibular and sublingual salivas. Arch Oral Biol **23**: 835–837.
- 204. Steinberg D, Kopec LK, Bowen WH (1993).**  
Adhesion of actinomyces isolates to experimental pellicle. J Dent Res **72**: 1015–1020.
- 205. Stone AA, Cox DS, Valdimarsdottir H, Neale JM (1987).**  
Secretory IgA as a measure of immunocompetence. J Human Stress **13**: 136–140.
- 206. Stuchell RN, Mandel ID (1978).**  
Studies of secretory IgA in caries-resistant and caries-susceptible adults. Adv Exp Med Biol **107**: 341–348.
- 207. Suber JF, Boackle RJ, Javed T, Vesely J (1984).**  
Parotid saliva agglutinins for sheep erythrocytes as a measure of ongoing inflammation in periodontal disease. J Periodontol **55**: 512–515.
- 208. Svanborg EH, Leffler H, Lomberg H (1982).**  
Recent progress in the understanding of the role of bacterial adhesion in the pathogenesis of urinary tract infection. Infection **10**: 327–332.
- 209. Takahashi IO, Kanamoto T (1990).**  
Intranasal immunization of mice with recombinant protein antigen mutants of *Streptococcus mutans* serotype c. Infect Immun **35**: 475–477.
- 210. Tanner A, Bouldin H (1989).**  
The microbiota of early periodontitis lesions in adults. Clin Periodontol **16**: 467–471.
- 211. Taubman MA, Holmberg CJ, Smith DJ (2001).**  
Diepitopic construct of functionally and epitopically complementary peptides enhances immunogenicity, reactivity with glucosyltransferase, and protection from dental caries. Infect Immun **69**: 4210–4216.



- 212. Taubman MS, Smith DJ (1974).**  
Effects of local immunization with *Streptococcus mutans* on induction of salivary immunoglobulin A antibody and experimental dental caries in rats. Inf Immun **9**: 1079–1091.
- 213. Taubman MS, Smith DJ (1977).**  
Effects of local immunization with glycosyltransferase on experimental dental caries in rats and hamsters. J Immunol **118**: 710–720.
- 214. Taubman MA, Smith DJ (1989).**  
Oral immunization for the prevention of dental diseases. In: Mestecky J, McGhee JR (Hrsg.), New strategies for oral immunization. Springer, Berlin.
- 215. Taylor HP, Dimmock NJ (1985).**  
Mechanism of neutralization of influenza virus by secretory IgA is different from that of monomeric IgA or IgG. J Exp Med **161**: 198–209.
- 216. Tenovuo J (1998).**  
Antimicrobial function of human Saliva – how important is it for oral health? Acta Odontol Scand **56**: 250–256.
- 217. Tenovuo J, Ihalin R, Loimaranta V, Lenander-Lumikari M (2001).**  
The sensitivity of *Porphyromonas gingivalis* and *Fusobacterium nucleatum* to different (pseudo)halide-peroxidase combinations compared with mutans streptococci. Med Microbiol **50**: 42–48.
- 218. Theilade J (1989).**  
Dental plaque and dental calculus. In: Lindhe J (Hrsg.), Textbook of Clinical Periodontologie. Munksgaard, Kopenhagen.
- 219. Theilade ET, Mikkelsen L (1982).**  
Microbiological studies on early dento-gingival plaque on teeth and mylar strips in humans. Periodontal Res **17**: 12–25.
- 220. Thomas EM, Joyner RE, Jefferson MM (1994).**  
Antibacterial activity of hydrogen peroxide in the lactoperoxidase-hydrogen peroxide-thiocyanate system against oral streptococci. Infect Immun **62**: 529–535.

- 221. Thylstrup AF (1986).**  
Textbook of Cariology. Munksgaard, Kopenhagen.
- 222. Tomana MP, Kulhavy R, Mestecky J (1985).**  
Carbohydrate-mediated clearance of secretory IgA from circulation. Mol Immunol **22**: 887–892.
- 223. Tomasi T (1989).**  
Regulation of the mucosal IgA response – an overview. Immunolog Investigat **18**: 1–15.
- 224. Tribout B, Gras-Champel V, Pannier M, Andrejak M (2001).**  
Physiology and pharmacology of lacrymal and salivary secretions. Rev Prat **51**: 133–139.
- 225. Truelove EL, Bixler D, Merritt D (1967).**  
Simplified method for collection of pure submandibular saliva in large volumes. J Dent Res **46**: 1400–1402.
- 226. Turesky SG, Glickman I (1970).**  
Reduced plaque formation by the chlormethyl analogue of vitamin C. J Periodontol **41**: 41–43.
- 227. Underdown BJ, Schiff JM (1986).**  
Immunoglobulin A: Strategic defense initiative at the mucosal surface. Ann Rev Immunol **4**: 389–417.
- 228. Walker J (1981).**  
Antibody responses of monkeys to oral and local immunization with *Streptococcus mutans*. Inf Immun **31**: 61–71.
- 229. Williams RC, Gibbons RJ (1972).**  
Inhibition of bacterial adherence by secretory immunoglobulin A. Science **177**: 697–699.

**230. Wold AM, Svanborg-Eden C (1988).**

Agglutination of E. coli by secretory IgA – A result of interaction between bacterial mannose specific adhesins and immunoglobulin carbohydrate. Monogr Allergy **24**: 307–309.

**231. Wolf RO (1964).**

Regulated vacuum system for collecting submaxillary and sublingual saliva. J Dent Res **43**: 303.

**232. Wolff LD, Aepli D (1994).**

Bacteria as risk markers for periodontitis. Periodontol **65**: 498–510.

**233. Wu HY, Russel MW (1993).**

Induction of mucosal immunity by intranasal application of a streptococcal surface protein antigen with the cholera toxin B subunit. Infect Immun **61**: 314–322.

**234. Zinkernagel RM (2000).**

Localization dose and time of antigens determine immune reactivity. Semin Immunol **12**: 163–171.