7 LITERATURVERZEICHNIS

AAFJES, J. H. (1967)
Carbonic anhydrase in the wall of the forestomachs of cows.
Br Vet J **123**(6): S. 252-256

ABDOUN, K.; STUMPFF, F.; WOLF, K. und MARTENS, H. (2005)
Modulation of electroneutral Na transport in sheep rumen epithelium by luminal ammonia.
Am J Physiol Gastrointest Liver Physiol **289**(3): S. G508-520

ABDOUN, K.; WOLF, K.; ARNDT, G. und MARTENS, H. (2003)
Effect of ammonia on Na+ transport across isolated rumen epithelium of sheep is diet dependent.
Br J Nutr **90**(4): S. 751-758

ALLEN, M. S. (1997)
Relationship between fermentation acid production in the rumen and the requirement for physically effective fiber.
J Dairy Sci **80**(7): S. 1447-1462

ALPER, S. L. (2006)
Molecular physiology of SLC4 anion exchangers.
Exp Physiol **91**(1): S. 153-161

ALPER, S. L.; CHERNOVA, M. N. und STEWART, A. K. (2001)
Regulation of Na+-independent Cl-/HCO3- exchangers by pH.
JOP. **2**(4 Suppl): S. 171-175

ALPER, S. L.; DARMAN, R. B.; CHERNOVA, M. N. und DAHL, N. K. (2002)
The AE gene family of Cl/HCO3- exchangers.
J Nephrol **15** Suppl 5: S. S41-53

ALPERN, R. J.; YAMAJI, Y.; CANO, A.; HORIE, S.; MILLER, R. T.; MOE, O. W. und PREISIG, P. A. (1993)
Chronic regulation of the Na/H antiporter.
J Lab Clin Med **122**(2): S. 137-140

ALREFAI, W. A.; SCAGLIONE-SEWELL, B.; TYAGI, S.; WARTMAN, L.; BRASITUS, T. A.; RAMASWAMY, K. und DUDEJA, P. K. (2001)
Differential regulation of the expression of Na(+)/H(+) exchanger isoform NHE3 by PKC-alpha in Caco-2 cells.
Am J Physiol Cell Physiol **281**(5): S. C1551-1558

AMLAL, H.; BURNHAM, C. E. und SOLEIMANI, M. (1999)
Characterization of Na+/HCO-3 cotransporter isoform NBC-3.
Am J Physiol **276**(6 Pt 2): S. F903-913

ARYSTARKHOVA, E.; WETZEL, R. K.; ASINOVSKI, N. K. und SWEADNER, K. J. (1999)
The gamma subunit modulates Na(+) and K(+) affinity of the renal Na,K-ATPase.
J Biol Chem **274**(47): S. 33183-33185

ASARI, M.; SASAKI, K.; KANO, Y. und NISHITA, T. (1989)
Immunohistochemical localization of carbonic anhydrase isozymes I, II and III in the bovine salivary glands and stomach.
Arch Histol Cytol **52**(4): S. 337-344

ASH, R. W. und DOBSON, A. (1963)
The Effect of Absorption on the Acidity of Rumen Contents.
J Physiol **169**: S. 39-61

BAILEY, C. B. (1961)
Saliva secretion and its relation to feeding in cattle. 4. The relationship between the concentrations of sodium, potassium, chloride and inorganic phosphate in mixed saliva and rumen fluid.
Br J Nutr **15**: S. 489-498

BAKER, S. K.; MCCULLAGH, K. J. und BONEN, A. (1998)
Training intensity-dependent and tissue-specific increases in lactate uptake and MCT-1 in heart and muscle.
J Appl Physiol **84**(3): S. 987-994

BALDWIN, R. (1999)
The proliferative actions of insulin, insulin-like-growth factor-1, epidermal growth factor, butyrate and propionate on ruminal cells in vitro.
Small ruminant Res **32**(3): S. 261-268

BALDWIN, R. L. T. und JESSE, B. W. (1996)
Propionate modulation of ruminal ketogenesis.
J Anim Sci **74**(7): S. 1694-1700

BARTH, C.; SLADEK, M. und DECKER, K. (1972)
Dietary changes of cytoplasmic acetyl-CoA synthetase in different rat tissues.
Biochim Biophys Acta **260**(1): S. 1-9

BASTARD, J. P.; CHAMBERT, S.; CEPPA, F.; COUDE, M.; GRAPEZ, E.; LORIC, S.; MUZEAU, F.; SPYRATOS, F.; POIRIER, K.; COPOIS, V.; TSE, C. und BIENVENU, T. (2002)
[RNA isolation and purification methods].
Ann Biol Clin (Paris) **60**(5): S. 513-523

BAXTER, R. C. (1985)
Measurement of growth hormone and prolactin receptor turnover in rat liver.
Endocrinology **117**(2): S. 650-655

BENNINK, M. R.; TYLER, T. R.; WARD, G. M. und JOHNSON, D. E. (1978)
Ionic milieu of bovine and ovine rumen as affected by diet.
J Dairy Sci **61**(3): S. 315-323

BENOS, D. J. (1982)
Amiloride: a molecular probe of sodium transport in tissues and cells.
Am J Physiol **242**(3): S. C131-145

BERG, R. und EDVI, P. (1976)
Morphologische Untersuchungen an der Pansenmukosa von Schafen mit gleichzeitigen klinischen Kontrollen bei Fütterung verschiedener Rationstypen.
Arch Tierernähr **26**(2): S. 147-157

BERGEN, W. G. (1972)
Rumen osmolality as a factor in feed intake control of sheep.
J Anim Sci **34**(6): S. 1054-1060

BERGMAN, E. N. (1990)
Energy contributions of volatile fatty acids from the gastrointestinal tract in various species.
Physiol Rev **70**(2): S. 567-590

BERNASCONI, P.; RAUSCH, T.; STRUVE, I.; MORGAN, L. und TAIZ, L. (1990)
An mRNA from human brain encodes an isoform of the B subunit of the vacuolar H(+)-ATPase.
J Biol Chem **265**(29): S. 17428-17431

BERTORELLO, A. M.; KOMAROVA, Y.; SMITH, K.; LEIBIGER, I. B.; EFENDIEV, R.; PEDEMONTE, C. H.; BORISY, G. und SZNAJDER, J. I. (2003)
Analysis of Na+,K+-ATPase motion and incorporation into the plasma membrane in response to G protein-coupled receptor signals in living cells.
Mol Biol Cell **14**(3): S. 1149-1157

BESIRLI, C. G.; GONG, T. W. und LOMAX, M. I. (1997)
Novel beta 3 isoform of the Na,K-ATPase beta subunit from mouse retina.
Biochim Biophys Acta **1350**(1): S. 21-26

BINNERTS, W. T.; KLOOSTER, A. T. V. und FRENS, A. M. (1968)
Soluble chromium indicator measured by atomic absorption in digestion experiments.
Vet. Rec. **82**: S. 470

BISKOBING, D. M. und FAN, D. (2000)
Acid pH increases carbonic anhydrase II and calcitonin receptor mRNA expression in mature osteoclasts.
Calcif Tissue Int **67**(2): S. 178-183

BLANCO, G.; MELTON, R. J.; SANCHEZ, G. und MERCER, R. W. (1999)
Functional characterization of a testes-specific alpha-subunit isoform of the sodium/potassium adenosinetriphosphatase.
Biochemistry **38**(41): S. 13661-13669

BONHAM, M. J. und DANIELPOUR, D. (1996)
Improved purification and yields of RNA by RNeasy.
Biotechniques **21**(1): S. 57-60

BOOKSTEIN, C.; DEPAOLI, A. M.; XIE, Y.; NIU, P.; MUSCH, M. W.; RAO, M. C. und CHANG, E. B. (1994)
Na+/H+ exchangers, NHE-1 and NHE-3, of rat intestine. Expression and localization.
J Clin Invest **93**(1): S. 106-113

BOOKSTEIN, C.; MUSCH, M. W.; XIE, Y.; RAO, M. C. und CHANG, E. B. (1999)
Regulation of intestinal epithelial brush border Na(+)/H(+) exchanger isoforms, NHE2 and NHE3, in C2bbe cells.
J Membr Biol **171**(1): S. 87-95

BOSTEDT, H. und DEDIÉ, K. (1996)
Schaf- und Ziegenkrankheiten: Ulmer Verlag

BÖTTCHER, A. (2000)
Funktionelle Charakterisierung des Na+/H+-Austauschers an kultivierten ruminalen Epithelzellen: Einfluß verschiedener extrazellulärer Faktoren und mögliche Regulationsmechanismen.
Diss., Institut für Veterinär-Physiologie, Freie Universität Berlin

BOWEN, J. W. und MCDONOUGH, A. (1987)
Pretranslational regulation of Na-K-ATPase in cultured canine kidney cells by low K+.
Am J Physiol **252**(2 Pt 1): S. C179-189

BRANT, S. R.; YUN, C. H.; DONOWITZ, M. und TSE, C. M. (1995)
Cloning, tissue distribution, and functional analysis of the human Na+/N+ exchanger isoform, NHE3.
Am J Physiol **269**(1 Pt 1): S. C198-206

BREIER, B. H.; GALLAHER, B. W. und GLUCKMAN, P. D. (1991)
Radioimmunoassay for insulin-like growth factor-I: solutions to some potential problems and pitfalls.
J Endocrinol **128**(3): S. 347-357

BREIER, B. H. und SAUERWEIN, H. (1995)
Regulation of growth in ruminants by the somatotropic axis.
in: Proceedings of the Eighth International Symposium on Ruminant Physiology, Ferdinand Enke Verlag; S. 451-471

BRETON, S. (2001)
The cellular physiology of carbonic anhydrases.
JOP. **2** (4 Suppl): S. 159-164

BROER, S.; RAHMAN, B.; PELLEGRI, G.; PELLERIN, L.; MARTIN, J. L.; VERLEYSDONK, S.; HAMPRECHT, B. und MAGISTRETTI, P. J. (1997)
Comparison of lactate transport in astroglial cells and monocarboxylate transporter 1 (MCT 1) expressing Xenopus laevis oocytes. Expression of two different monocarboxylate transporters in astroglial cells and neurons.
J Biol Chem **272**(48): S. 30096-30102

BROWN, D.; ZHU, X. L. und SLY, W. S. (1990)
Localization of membrane-associated carbonic anhydrase type IV in kidney epithelial cells.
Proc Natl Acad Sci U S A **87**(19): S. 7457-7461

BROWNLEE, A. (1956)
The development of rumen papillae in cattle fed on different diets.
Brit Vet J **112**: S. 369-375

BUGAUT, M. (1987)
Occurrence, absorption and metabolism of short chain fatty acids in the digestive tract of mammals.
Comp Biochem Physiol B **86**(3): S. 439-472

BURCKHARDT, G.; DI SOLE, F. und HELMLE-KOLB, C. (2002)
The Na+/H+ exchanger gene family.
J Nephrol **15** Suppl 5: S. S3-21

BUSTIN, S. A. (2000)
Absolute quantification of mRNA using real-time reverse transcription polymerase chain reaction assays.
J Mol Endocrinol **25**(2): S. 169-193

BUSTIN, S. A. (2002)
Quantification of mRNA using real-time reverse transcription PCR (RT-PCR): trends and problems.
J Mol Endocrinol **29**(1): S. 23-39

BUSTIN, S. A. und NOLAN, T. (2004)
Pitfalls of quantitative real-time reverse-transcription polymerase chain reaction.
J Biomol Tech **15**(3): S. 155-166

CARTER, R. R. und GROVUM, W. L. (1990)
A review of the physiological significance of hypertonic body fluids on feed intake and ruminal function: salivation, motility and microbes.
J Anim Sci **68**(9): S. 2811-2832

CHIEN, W. J. und STEVENS, C. E. (1972)
Coupled active transport of Na and Cl across forestomach epithelium.
Am J Physiol **223**(4): S. 997-1003

CHOWDARY, D.; LATHROP, J.; SKELTON, J.; CURTIN, K.; BRIGGS, T.; ZHANG, Y.; YU, J.; WANG, Y. und MAZUMDER, A. (2006)
Prognostic gene expression signatures can be measured in tissues collected in RNAlater preservative.
J Mol Diagn **8**(1): S. 31-39

CHRISTOPHERSON, R. J. und WEBSTER, A. J. (1972)
Changes during eating in oxygen consumption, cardiac function and body fluids of sheep.
J Physiol **221**(2): S. 441-457

COOK, R. M.; LIU, S.-C. C. und QURAISHI, S. (1969)
utilization of volatile fatty acids in ruminants. III. Comparison of mitochondrial acyl coenzyme A synthetase activity and substrate specifity in different tissues.
J Agric Food Chem **8**(7): S. 2966-2969

COPPOCK, C. E.; NOLLER, C. H. und WOLFE, S. A. (1974)
Effect of forage-concentrate ratio in complete feeds fed ad libitum on energy intake in relation to requirements by dairy cows.
J Dairy Sci **57**(11): S. 1371-1380

CORREA, M. T.; CURTIS, C. R.; ERB, H. N.; SCARLETT, J. M. und SMITH, R. D. (1990)
An ecological analysis of risk factors for postpartum disorders of Holstein-Friesian cows from thirty-two New York farms.
J Dairy Sci **73**(6): S. 1515-1524

CUFF, M. A.; LAMBERT, D. W. und SHIRAZI-BEECHEY, S. P. (2002)
Substrate-induced regulation of the human colonic monocarboxylate transporter, MCT1.
J Physiol **539**(Pt 2): S. 361-371

CUFF, M. A. und SHIRAZI-BEECHEY, S. P. (2002)
The human monocarboxylate transporter, MCT1: genomic organization and promoter analysis.
Biochem Biophys Res Commun **292**(4): S. 1048-1056

DI SARIO, A.; BENDIA, E.; SVEGLIATI BARONI, G.; RIDOLFI, F.; BOLOGNINI, L.; FELICIANGELI, G.; JEZEQUEL, A. M.; ORLANDI, F. und BENEDETTI, A. (1999)
Intracellular pathways mediating Na+/H+ exchange activation by platelet-derived growth factor in rat hepatic stellate cells.
Gastroenterology **116**(5): S. 1155-1166

DIERNAES, L.; SEHESTED, J.; MOLLER, P. D. und SKADHAUGE, E. (1994)
Sodium and chloride transport across the rumen epithelium of cattle in vitro: effect of short-chain fatty acids and amiloride.
Exp Physiol **79**(5): S. 755-762

DIMMER, K. S.; FRIEDRICH, B.; LANG, F.; DEITMER, J. W. und BROER, S. (2000)
The low-affinity monocarboxylate transporter MCT4 is adapted to the export of lactate in highly glycolytic cells.
Biochem J **350** Pt 1: S. 219-227

DIRKSEN, G. (1985)
The rumen acidosis complex-recent knowledge and experiences (1). A review.
Tierärztl Prax **13**(4): S. 501-512

DIRKSEN, G. (1986)
Ruminal acidosis complex-new observations and experiences (2). A review.
Tierärztl Prax **14**(1): S. 23-33

DIRKSEN, G.; AHRENS, F.; SCHON, J.; MAYER, E. und LIEBICH, H. G. (1992a)
Preparatory feeding of the dry stage cow in regard to nutritional condition and the status of the rumen mucosa and rumen flora at calving.
Berl Munch Tierärztl Wochenschr **105**(1): S. 1-4

DIRKSEN, G.; AHRENS, F.; SCHÖN, J.; MAYER, E. und LIEBICH, H. G. (1992b)
Vorbereitungsfütterung der trockenstehenden Kuh im Hinblick auf Ernährungszustand und Status von Pansenschleimhaut und Pansenflora bei der Kalbung.
Berl Münch Tierärztl Wschr **105**: S. 001-004

DIRKSEN, G.; LIEBICH, H. G.; BROSI, G.; HAGEMEISTER, H. und MAYER, E. (1984)
Morphology of the rumen mucosa and fatty acid absorption in cattle-important factors for health and production.
Zentralbl Veterinärmed A **31**(6): S. 414-430

DOBLE, M. A.; TOLA, V. B.; CHAMBERLAIN, S. A.; CIMA, R. R.; VAN HOEK, A. und SOYBEL, D. I. (2002)
Luminal regulation of Na(+)/H(+) exchanger gene expression in rat ileal mucosa.
J Gastrointest Surg **6**(3): S. 387-395

DOBSON, A. (1959)
Active transport through the epithelium of the reticulo-rumen sac.
J Physiol **146**(2): S. 235-251

DOBSON, A. (1984)
Blood flow and absorption from the rumen.
Q J Exp Physiol **69**(3): S. 599-606

DOBSON, A.; SELLERS, A. F. und GATEWOOD, V. H. (1970)
Absorption of water from isolated ventral sac of rumen of the cow.
J Appl Physiol **28**: S. 100-104

DOREAU, M.; FERCHAL, E. und BECKERSM, Y. (1997)
Effects of level of intake and of available volatile fatty acids on the absorptive capacity of sheep rumen.
Small ruminant Res **25**: S. 99-105

DUFFIELD, T.; PLAIZIER, J. C.; FAIRFIELD, A.; BAGG, R.; VESSIE, G.; DICK, P.; WILSON, J.; ARAMINI, J. und MCBRIDE, B. (2004)
Comparison of techniques for measurement of rumen pH in lactating dairy cows.
J Dairy Sci **87**(1): S. 59-66

EFENDIEV, R.; BERTORELLO, A. M.; PRESSLEY, T. A.; ROUSSELOT, M.; FERAILLE, E. und PEDEMONTE, C. H. (2000)
Simultaneous phosphorylation of Ser11 and Ser18 in the alpha-subunit promotes the recruitment of Na(+),K(+)-ATPase molecules to the plasma membrane.
Biochemistry **39**(32): S. 9884-9892

EMANOVIC, D.; HARRISON, F. A.; KEYNES, R. D. und RANKIN, J. C. (1976)
The effect of acetzolamide on Ion transport across isolated sheep rumen epithelium.
J Physiol **254**(3): S. 803-812

ENERSON, B. E. und DREWES, L. R. (2003)
Molecular features, regulation, and function of monocarboxylate transporters: implications for drug delivery.
J Pharm Sci **92**(8): S. 1531-1544

ENGELHARDT, W. V. und BREVES, G. (2005)
Physiologie der Haustiere, 2. Auflage
Stuttgart: MVS Medizinverlage Stuttgart

ENRIGHT, W. J.; CHAPIN, L. T.; MOSELEY, W. M.; ZINN, S. A.; KAMDAR, M. B.; KRABILL, L. F. und TUCKER, H. A. (1989)
Effects of infusions of various doses of bovine growth hormone-releasing factor on blood hormones and metabolites in lactating Holstein cows.
J Endocrinol **122**(3): S. 671-679

ERWIN, C. R.; FALCONE, R. A., JR.; STERN, L. E.; KEMP, C. J. und WARNER, B. W. (2000)
Analysis of intestinal adaptation gene expression by cDNA expression arrays.
JPEN J Parenter Enteral Nutr **24**(6): S. 311-316

FALCONE, R. A., JR.; SHIN, C. E.; STERN, L. E.; WANG, Z.; ERWIN, C. R.; SOLEIMANI, M. und WARNER, B. W. (1999)
Differential expression of ileal Na(+)/H(+) exchanger isoforms after enterectomy.
J Surg Res **86**(2): S. 192-197

FAMBROUGH, D. M.; LEMAS, M. V.; HAMRICK, M.; EMERICK, M.; RENAUD, K. J.; INMAN, E. M.; HWANG, B. und TAKEYASU, K. (1994)
Analysis of subunit assembly of the Na-K-ATPase.
Am J Physiol **266**(3 Pt 1): S. C579-589

FEJES-TOTH, G.; CHEN, W. R.; RUSVAI, E.; MOSER, T. und NARAY-FEJES-TOTH, A. (1994)
Differential expression of AE1 in renal HCO3-secreting and -reabsorbing intercalated cells.
J Biol Chem **269**(43): S. 26717-26721

FEJES-TOTH, G.; RUSVAI, E.; CLEAVELAND, E. S. und NARAY-FEJES-TOTH, A. (1998)
Regulation of AE2 mRNA expression in the cortical collecting duct by acid/base balance.
Am J Physiol **274**(3 Pt 2): S. F596-601

FERREIRA, H. G.; HARRISON, F. A. und KEYNES, R. D. (1966)
The potential and short-circuit current across isolated rumen epithelium of the sheep.
J Physiol **187**: S. 631-644

FERREIRA, H. G.; HARRISON, F. A.; KEYNES, R. D. und ZURICH, L. (1972)
Ion transport across an isolated preparation of sheep rumen epithelium.
J Physiol **222**(1): S. 77-93

FERREIRA, H. G.; HARRISON, R. D. und KEYNES, R. D. (1964)
Studies with isolates rumen epithelium of the sheep.
J Physiol **175**: S. 28 P-30 P

FINBOW, M. E. und HARRISON, M. A. (1997)
The vacuolar H+-ATPase: a universal proton pump of eukaryotes.
Biochem J **324** (Pt 3): S. 697-712

FLATT, W. P.; WARNER, R. G. und LOOSLI, J. K. (1958)
Influence of purified materials on the development of the ruminant stomach.
J Dairy Sci **41**: S. 1593-1600

FLEIGE, S. und PFAFFL, M. W. (2006)
RNA integrity and the effect on the real-time qRT-PCR performance.
Mol Aspects Med **27**(2-3): S. 126-139

FLEMING, R. E.; PARKKILA, S.; PARKKILA, A. K.; RAJANIEMI, H.; WAHEED, A. und SLY, W. S. (1995)
Carbonic anhydrase IV expression in rat and human gastrointestinal tract regional, cellular, and subcellular localization.
J Clin Invest **96**(6): S. 2907-2913

FORBUSH, B., 3RD; KAPLAN, J. H. und HOFFMAN, J. F. (1978)
Characterization of a new photoaffinity derivative of ouabain: labeling of the large polypeptide and of a proteolipid component of the Na, K-ATPase.
Biochemistry **17**(17): S. 3667-3676

FROETSCHEL, M. A. und AMOS, H. E. (1991)
Effects of dietary fiber and feeding frequency on ruminal fermentation, digesta water-holding capacity, and fractional turnover of contents.
J Anim Sci **69**(3): S. 1312-1321

FUJINO, T.; KONDO, J.; ISHIKAWA, M.; MORIKAWA, K. und YAMAMOTO, T. T. (2001)
Acetyl-CoA synthetase 2, a mitochondrial matrix enzyme involved in the oxidation of acetate.
J Biol Chem **276**(14): S. 11420-11426

GÄBEL, G. (1988)
Natrium- und Chloridtransport im Pansen von Schafen: Mechanismen und ihre Beeinflussung durch intraruminale Fermentationsprodukte
Diss., Physiologisches Institut, Tierärztliche Hochschule Hannover

GÄBEL, G.; ASCHENBACH, J. R. und MÜLLER, F. (2002)
Transfer of energy substrates across the ruminal epithelium: implications and limitations.
Anim Health Res Rev **3**(1): S. 15-30

GÄBEL, G.; BELL, M. und MARTENS, H. (1989)
The effect of low mucosal pH on sodium ans chloride movement across the isolated rumen mucosa of sheep.
Q J Exp Physiol **74**: S. 35-44

GÄBEL, G.; BESTMANN, M. und MARTENS, H. (1991a)
Influences of diet, short-chain fatty acids, lactate and chloride on bicarbonate movement across the reticulo-rumen wall of sheep.
Zentralbl Veterinärmed A **38**(7): S. 523-529

GÄBEL, G.; MARTENS, H.; SUENDERMANN, M. und GALFI, P. (1987a)
The effect of diet, intraruminal pH and osmolarity on sodium, chloride and magnesium absorption from the temporarily isolated and washed reticulo-rumen of sheep.
Q J Exp Physiol **72**(4): S. 501-511

GÄBEL, G. und SEHESTED, J. (1997)
SCFA transport in the forestomach of ruminants.
Comp Biochem Physiol A Physiol **118**(2): S. 367-374

GÄBEL, G.; SUENDERMANN, M. und MARTENS, H. (1987b)
The influence of osmotic pressure, lactic acid and pH on ion and fluid absorption from the washed and temporarily isolated reticulo-rumen of sheep.
Zentralbl Veterinärmed A **34**(3): S. 220-226

GÄBEL, G.; VOGLER, S. und MARTENS, H. (1991b)
Short-chain fatty acids and CO2 as regulators of Na+ and Cl- absorption in isolated sheep rumen mucosa.
J Comp Physiol [B] **161**(4): S. 419-426

GÄBEL, G.; VOGLER, S. und MARTENS, H. (1993)
Mechanisms of sodium and chloride transport across isolated sheep reticulum.
Comp Biochem Physiol Comp Physiol **105**(1): S. 1-10

GALFI, P.; GABEL, G. und MARTENS, H. (1993)
Influences of extracellular matrix components on the growth and differentiation of ruminal epithelial cells in primary culture.
Res Vet Sci **54**(1): S. 102-109

GALFI, P.; NEOGRÀDY, S. und SAKATA, T. (1991)
Effects of volatile fatty acids on the epithelial cell/
Proliferation of the digestive Tract and its hormonal Mediation.
Proceedings of the seventh International Symposium on ruminant Physiology:
S. 49-59

GILL, M.; SIDDONS, R. C. und ROWE, J. B. (1986)
Metabolism of lactic acid isomers in the rumen of silage-fed sheep.
Br J Nutr **55**(2): S. 399-407

GINZINGER, D. G. (2002)
Gene quantification using real-time quantitative PCR: an emerging technology hits the mainstream.
Exp Hematol **30**(6): S. 503-512

GLOOR, S.; ANTONICEK, H.; SWEADNER, K. J.; PAGLIUSI, S.; FRANK, R.; MOOS, M. und SCHACHNER, M. (1990)
The adhesion molecule on glia (AMOG) is a homologue of the beta subunit of the Na,K-ATPase.
J Cell Biol **110**(1): S. 165-174

GLUCKMAN, P. D.; JOHNSON-BARRETT, J. J.; BUTLER, J. H.; EDGAR, B. W. und GUNN, T. R. (1983)
Studies of insulin-like growth factor -I and -II by specific radioligand assays in umbilical cord blood.
Clin Endocrinol (Oxf) **19**(3): S. 405-413

GRAHAM, L. A.; POWELL, B. und STEVENS, T. H. (2000)
Composition and assembly of the yeast vacuolar H(+)-ATPase complex.
J Exp Biol **203**(Pt 1): S. 61-70

GUYTON, A. C.; MANNING, R. D., JR.; NORMAN, R. A., JR.; MONTANI, J. P.; LOHMEIER, T. E. und HALL, J. E. (1986)
Current concepts and perspectives of renal volume regulation in relationship to hypertension.
J Hypertens Suppl **4**(4): S. S49-56

HALESTRAP, A. P. und MEREDITH, D. (2004)
The SLC16 gene family-from monocarboxylate transporters (MCTs) to aromatic amino acid transporters and beyond.
Pflügers Arch **447**(5): S. 619-628

HALESTRAP, A. P. und PRICE, N. T. (1999)
The proton-linked monocarboxylate transporter (MCT) family: structure, function and regulation.
Biochem J **343**(Pt 2): S. 281-299

HAMASAKI, N.; IIDA, H. und KINOSHITA, S. (2001)
Molecular biology techniques as clinical laboratory tests.
Rinsho Byori **49**(1): S. 9-18

HAMMON, H. M. und BLUM, J. W. (2002)
Feeding different amounts of colostrum or only milk replacer modify receptors of intestinal insulin-like growth factors and insulin in neonatal calves.
Domest Anim Endocrinol **22**(3): S. 155-168

HANSEN, O. (1998)
Isoform of Na+, K(+)-ATPase from rumen epithelium identified and quantified by immunochemical methods.
Acta Physiol Scand **163**(2): S. 201-208

HARMON, D. L.; GROSS, K. L.; KREHBIEL, C. R.; KREIKEMEIER, K. K.; BAUER, M. L. und BRITTON, R. A. (1991)
Influence of dietary forage and energy intake on metabolism and acyl-CoA synthetase activity in bovine ruminal epithelial tissue.
J Anim Sci **69**(10): S. 4117-4127

HARRIS, B. Z. und LIM, W. A. (2001)
Mechanism and role of PDZ domains in signaling complex assembly.
J Cell Sci **114**(Pt 18): S. 3219-3231

HARRISON, F. A.; KEYNES, R. D.; RANKIN, J. C. und ZURICH, L. (1975)
The effect of ouabain on ion transport across isolated sheep rumen epithelium.
J Physiol **249**(3): S. 669-677

HASS, R.; BUSCHE, R.; LUCIANO, L.; REALE, E. und ENGELHARDT, W. V. (1997)
Lack of butyrate is associated with induction of Bax and subsequent apoptosis in the proximal colon of guinea pig.
Gastroenterology **112**(3): S. 875-881

HIGUCHI, R.; FOCKLER, C.; DOLLINGER, G. und WATSON, R. (1993)
Kinetic PCR analysis: real-time monitoring of DNA amplification reactions.
Biotechnology (N Y) **11**(9): S. 1026-1030

HODGKINSON, S. C. (1991)
Insulin-like growth factors and their binding proteins in post-natal ruminants.
Diss., University of Auckland, New Zealand

HODIN, R. (2000)
Maintaining gut homeostasis: the butyrate-NF-kappaB connection.
Gastroenterology **118**(4): S. 798-801

HOLLAND, M. D.; HOSSNER, K. L.; NISWENDER, G. D.; ELSASSER, T. H. und ODDE, K. G. (1988)
Validation of a heterologous radioimmunoassay for insulin-like growth factor-I in bovine serum.
J Endocrinol **119**(2): S. 281-285

HOLTENIUS, P. und HOLTENIUS, K. (1996)
New aspects of ketone bodies in energy metabolism of dairy cows: a review.
Zentralbl Veterinärmed A **43**(10): S. 579-587

HUA, K. M.; HODGKINSON, S. C. und BASS, J. J. (1995)
Differential regulation of plasma levels of insulin-like growth factors-I and -II by nutrition, age and growth hormone treatment in sheep.
J Endocrinol **147**(3): S. 507-516

HUHN, K.; MULLER, F.; HONSCHA, K. U.; PFANNKUCHE, H. und GABEL, G. (2003)
Molecular and functional evidence for a Na(+)-HCO3(-)-cotransporter in sheep ruminal epithelium.
J Comp Physiol [B] **173**(4): S. 277-284

IKEDA, Y.; YAMAMOTO, J.; OKAMURA, M.; FUJINO, T.; TAKAHASHI, S.; TAKEUCHI, K.; OSBORNE, T. F.; YAMAMOTO, T. T.; ITO, S. und SAKAI, J. (2001)
Transcriptional regulation of the murine acetyl-CoA synthetase 1 gene through multiple clustered binding sites for sterol regulatory element-binding proteins and a single neighboring site for Sp1.
J Biol Chem **276**(36): S. 34259-34269

IVANOV, S.; LIAO, S. Y.; IVANOVA, A.; DANILKOVITCH-MIAGKOVA, A.; TARASOVA, N.; WEIRICH, G.; MERRILL, M. J.; PROESCHOLDT, M. A.; OLDFIELD, E. H.; LEE, J.; ZAVADA, J.; WAHEED, A.; SLY, W.; LERMAN, M. I. und STANBRIDGE, E. J. (2001)
Expression of hypoxia-inducible cell-surface transmembrane carbonic anhydrases in human cancer.
Am J Pathol **158**(3): S. 905-919

JACKSON, V. N.; PRICE, N. T.; CARPENTER, L. und HALESTRAP, A. P. (1997)
Cloning of the monocarboxylate transporter isoform MCT2 from rat testis provides evidence that expression in tissues is species-specific and may involve post-transcriptional regulation.
Biochem J **324**(Pt 2): S. 447-453

JAISSER, F.; CANESSA, C. M.; HORISBERGER, J. D. und ROSSIER, B. C. (1992)
Primary sequence and functional expression of a novel ouabain-resistant Na,K-ATPase. The beta subunit modulates potassium activation of the Na,K-pump.
J Biol Chem **267**(24): S. 16895-16903

JIANG, L.; LAWSKY, H.; COLOSO, R.; DUDLEY, M.; FERRARIS, R.; LAWSKY, H.; COLOSO, R.; DUDLEY, M. und FERRARIS, R. (2001)
Intestinal perfusion induces rapid activation of immediate-early genes in weaning rats.
Am J Physiol Regul Integr Comp Physiol **281**(4): S. R1274-1282

JOHNSON, D. W.; SAUNDERS, H. J.; BREW, B. K.; GANESAN, A.; BAXTER, R. C.; PORONNIK, P.; COOK, D. I.; GYORY, A. Z.; FIELD, M. J. und POLLOCK, C. A. (1997)
Human renal fibroblasts modulate proximal tubule cell growth and transport via the IGF-I axis.
Kidney Int **52**(6): S. 1486-1496

JOHNSON, W.; DIPALMA, C.; ZIEGLER, T.; SCULLY, S. und FARRELL, C. (2000)
Keratinocyte growth factor enhances early gut adaptation in a rat model of short bowel syndrome.
Vet Surg **29**(1): S. 17-27

KAMPHUES, J.; COENEN, M. und KIENZLE, E. (2004)
Supplemente zu Vorlesungen und Übungen in der Tierernährung: Schaper Verlag

KANDASAMY, R. A. und ORLOWSKI, J. (1996)
Genomic organization and glucocorticoid transcriptional activation of the rat Na+/H+ exchanger NHE3 gene.
J Biol Chem **271**(18): S. 10551-10559

KANJHAN, R.; HRYCIW, D. H.; YUN, C. C.; BELLINGHAM, M. C. und PORONNIK, P. (2006)
Postnatal developmental expression of the PDZ scaffolds Na(+)-H(+) exchanger regulatory factors 1 and 2 in the rat cochlea.
Cell Tissue Res **323**(1): S. 53-70

KAUFFOLD, P.; PIATKOWSKI, B. und VOIGT, J. (1977a)
Studies on the effect of nutritional factors on the ruminal mucosa. 4. The effect of plant proteins and urea on mucosal structure and function.
Arch Tierernähr **27**(6): S. 379-391

KAUFFOLD, P.; VOIGT, J. und HERRENDORFER, G. (1977b)
The effect of nutritional factors on the ruminal mucosa. 3. Condition of the mucosa after infusion of propionic acid, acetic acid and butyric acid.
Arch Tierernähr **27**(3): S. 201-211

KAUFFOLD, P.; VOIGT, J. und PIATKOWSKI, B. (1975)
Studies of the influence of nutritional factors on the ruminal mucosa. 1. Structure and functional state of the ruminal mucosa after feeding of extreme rations and abrupt change in nutrition.
Arch Tierernähr **25**(4): S. 247-256

KIELA, P. R.; HINES, E. R.; COLLINS, J. F. und GHISHAN, F. K. (2001)
Regulation of the rat NHE3 gene promoter by sodium butyrate.
Am J Physiol Gastrointest Liver Physiol **281**(4): S. G947-956

KIRAT, D.; INOUE, H.; IWANO, H.; HIRAYAMA, K.; YOKOTA, H.; TANIYAMA, H. und KATO, S. (2005)
Expression and distribution of monocarboxylate transporter 1 (MCT1) in the gastrointestinal tract of calves.
Res Vet Sci **79**(1): S. 45-50

KIRAT, D.; MASUOKA, J.; HAYASHI, H.; IWANO, H.; YOKOTA, H.; TANIYAMA, H. und KATO, S. (2006)
Monocarboxylate transporter 1 (MCT1) plays a direct role in short-chain fatty acids absorption in caprine rumen.
J Physiol **576**(Pt 2): S. 635-647

KIRLEY, T. L. (1989)
Determination of three disulfide bonds and one free sulfhydryl in the beta subunit of (Na,K)-ATPase.
J Biol Chem **264**(13): S. 7185-7192

KIVELA, A. J.; KIVELA, J.; SAARNIO, J. und PARKKILA, S. (2005)
Carbonic anhydrases in normal gastrointestinal tract and gastrointestinal tumours.
World J Gastroenterol **11**(2): S. 155-163

KOHO, N.; MAIJALA, V.; NORBERG, H.; NIEMINEN, M. und POSO, A. R. (2005)
Expression of MCT1, MCT2 and MCT4 in the rumen, small intestine and liver of reindeer (Rangifer tarandus tarandus L.).
Comp Biochem Physiol A Mol Integr Physiol **141**(1): S. 29-34

KRAFT, W. und DÜRR, U. M. (1999)
Klinische Labordiagnostik in der Tiermedizin. 5. Auflage
Stuttgart; New York

KRAMER, T.; MICHELBERGER, T.; GURTLER, H. und GÄBEL, G. (1996)
Absorption of short-chain fatty acids across ruminal epithelium of sheep.
J Comp Physiol [B] **166**(4): S. 262-269

KREUZER, K. A.; LASS, U.; LANDT, O.; NITSCHE, A.; LASER, J.; ELLERBROK, H.; PAULI, G.; HUHN, D. und SCHMIDT, C. A. (1999)
Highly sensitive and specific fluorescence reverse transcription-PCR assay for the pseudogene-free detection of beta-actin transcripts as quantitative reference.
Clin Chem **45**(2): S. 297-300

KRISTENSEN, N. B.; GABEL, G.; PIERZYNOWSKI, S. G. und DANFAER, A. (2000)
Portal recovery of short-chain fatty acids infused into the temporarily-isolated and washed reticulo-rumen of sheep.
Br J Nutr **84**(4): S. 477-482

LANG, I. und MARTENS, H. (1999)
Na transport in sheep rumen is modulated by voltage-dependent cation conductance in apical membrane.
Am J Physiol **277**(3 Pt 1): S. G609-618

LEDERER, E. D.; KHUNDMIRI, S. J. und WEINMAN, E. J. (2003)
Role of NHERF-1 in regulation of the activity of Na-K ATPase and sodium-phosphate co-transport in epithelial cells.
J Am Soc Nephrol **14**(7): S. 1711-1719

LEE, B. S.; UNDERHILL, D. M.; CRANE, M. K. und GLUCK, S. L. (1995)
Transcriptional regulation of the vacuolar H(+)-ATPase B2 subunit gene in differentiating THP-1 cells.
J Biol Chem **270**(13): S. 7320-7329

LEEDLE, J. A.; BRYANT, M. P. und HESPELL, R. B. (1982)
Diurnal variations in bacterial numbers and fluid parameters in ruminal contents of animals fed low- or high-forage diets.
Appl Environ Microbiol **44**(2): S. 402-412

LEHNINGER, A. L., NELSON, D. L., COX, M. M. (2001)
Prinzipien der Biochemie: Springer Verlag

LEHTONEN, J.; SHEN, B.; VIHINEN, M.; CASINI, A.; SCOZZAFAVA, A.; SUPURAN, C. T.; PARKKILA, A. K.; SAARNIO, J.; KIVELA, A. J.; WAHEED, A.; SLY, W. S. und PARKKILA, S. (2004)
Characterization of CA XIII, a novel member of the carbonic anhydrase isozyme family.
J Biol Chem **279**(4): S. 2719-2727

LEINO, R. L.; GERHART, D. Z.; DUELLI, R.; ENERSON, B. E. und DREWES, L. R. (2001)
Diet-induced ketosis increases monocarboxylate transporter (MCT1) levels in rat brain.
Neurochem Int **38**(6): S. 519-527

LEONHARD-MAREK, S.; GABEL, G. und MARTENS, H. (1998)
Effects of short chain fatty acids and carbon dioxide on magnesium transport across sheep rumen epithelium.
Exp Physiol **83**(2): S. 155-164

LEONHARD-MAREK, S. und MARTENS, H. (1996)
Effects of potassium on magnesium transport across rumen epithelium.
Am J Physiol **271**(6 Pt 1): S. G1034-1038

LEONHARD-MAREK, S.; STUMPFF, F.; BRINKMANN, I.; BREVES, G. und MARTENS, H. (2005)
Basolateral Mg2+/Na+ exchange regulates apical nonselective cation channel in sheep rumen epithelium via cytosolic Mg2+.
Am J Physiol Gastrointest Liver Physiol **288**(4): S. G630-645

LESCALE-MATYS, L.; HENSLEY, C. B.; CRNKOVIC-MARKOVIC, R.; PUTNAM, D. S. und MCDONOUGH, A. A. (1990)
Low K+ increases Na,K-ATPase abundance in LLC-PK1/Cl4 cells by differentially increasing beta, and not alpha, subunit mRNA.
J Biol Chem **265**(29): S. 17935-17940

LESCALE-MATYS, L.; PUTNAM, D. S. und MCDONOUGH, A. A. (1993)
Na(+)-K(+)-ATPase alpha 1- and beta 1-subunit degradation: evidence for multiple subunit specific rates.
Am J Physiol **264**(3 Pt 1): S. C583-590

LIEBICH, H. G. (1999)
Funktionelle Histologie der Haussäugetiere: Lehrbuch und Farbatlas für Studium und Praxis.
Schattauer Verlag; Stuttgart; New York

LIEBICH, H. G.; DIRKSEN, G.; ARBEL, A.; DORI, S. und MAYER, E. (1987)
Feed-dependent changes in the rumen mucosa of high-producing cows from the dry period to eight weeks post partum.
Zentralbl Veterinärmed A **34**(9): S. 661-672

LIEBICH, H. G.; REUSCH, A.; SCHARZ, M. und MAYER, E. (1990)
Funktionelle Morphologie der bovinen Pansenschleimhaut - fütterungsabhängige Regression und Proliferation des kollagenfaserigen Bindegewebes der ruminalen Zotten.
Tierärztl. Umschau **45**: S. 732-739

LIVAK, K. J. und SCHMITTGEN, T. D. (2001)
Analysis of relative gene expression data using real-time quantitative PCR and the 2(-Delta Delta C(T)) Method.
Methods **25**(4): S. 402-408

LIVESEY, C. T. und FLEMING, F. L. (1984)
Nutritional influences on laminitis, sole ulcer and bruised sole in Friesian cows.
Vet Rec **114**(21): S. 510-512

LJUNGMANN, K.; GROFTE, T.; KISSMEYER-NIELSEN, P.; FLYVBJERG, A.; VILSTRUP, H.; TYGSTRUP, N. und LAURBERG, S. (2000)
GH decreases hepatic amino acid degradation after small bowel resection in rats without enhancing bowel adaptation.
Am J Physiol Gastrointes. Liver Physiol **279**(4): S. G700-706

LODEMANN, U. und MARTENS, H. (2006)
Effects of diet and osmotic pressure on Na+ transport and tissue conductance of sheep isolated rumen epithelium.
Exp Physiol **91**(3): S. 539-550

LOIKKANEN, I.; HAGHIGHI, S.; VAINIO, S. und PAJUNEN, A. (2002)
Expression of cytosolic acetyl-CoA synthetase gene is developmentally regulated.
Mech Dev **115**(1-2): S. 139-141

LOPEZ, S.; HOVELL, F. D.; DIJKSTRA, J. und FRANCE, J. (2003)
Effects of volatile fatty acid supply on their absorption and on water kinetics in the rumen of sheep sustained by intragastric infusions.
J Anim Sci **81**(10): S. 2609-2616

LOPEZ, S.; HOVELL, F. D. und MACLEOD, N. A. (1994)
Osmotic pressure, water kinetics and volatile fatty acid absorption in the rumen of sheep sustained by intragastric infusions.
Br J Nutr **71**(2): S. 153-168

LOPINA, O. D. (2001)
Interaction of Na,K-ATPase catalytic subunit with cellular proteins and other endogenous regulators.
Biochemistry (Mosc) **66**(10): S. 1122-1131

LUCIONI, A.; WOMACK, C.; MUSCH, M. W.; ROCHA, F. L.; BOOKSTEIN, C. und CHANG, E. B. (2002)
Metabolic acidosis in rats increases intestinal NHE2 and NHE3 expression and function.
Am J Physiol Gastrointest Liver Physiol **283**(1): S. G51-56

LUONG, A.; HANNAH, V. C.; BROWN, M. S. und GOLDSTEIN, J. L. (2000)
Molecular characterization of human acetyl-CoA synthetase, an enzyme regulated by sterol regulatory element-binding proteins.
J Biol Chem **275**(34): S. 26458-26466

LYNCH, C. J.; HAZEN, S. A.; HORETSKY, R. L.; CARTER, N. D. und DODGSON, S. J. (1993)
Differentiation-dependent expression of carbonic anhydrase II and III in 3T3 adipocytes.
Am J Physiol **265**(1 Pt 1): S. C234-243

MALIK, N.; CANFIELD, V. A.; BECKERS, M. C.; GROS, P. und LEVENSON, R. (1996)
Identification of the mammalian Na,K-ATPase 3 subunit.
J Biol Chem **271**(37): S. 22754-22758

MANTELL, M. P.; ZIEGLER, T. R.; ADAMSON, W. T.; ROTH, J. A.; ZHANG, W.; FRANKEL, W.; BAIN, A.; CHOW, J. C.; SMITH, R. J. und ROMBEAU, J. L. (1995)
Resection-induced colonic adaptation is augmented by IGF-I and associated with upregulation of colonic IGF-I mRNA.
Am J Physiol **269**(6 Pt 1): S. G974-980

MARTENS, H. (1978)
In vitro und in vivo Untersuchungen über den Magnesiumtransport durch die Pansenschleimhaut von Schafen und dessen Beeinflussung durch Futterinhaltstoffe und Fermentationprodukte des Pansens. Ein Beitrag zur Pathogenese der Hypomagnesämie der Wiederkäuer.
Diss., Physiologisches Institut, Tierärztliche Hochschule Hannover

MARTENS, H. und BLUME, I. (1987)
Studies on the absorption of sodium and chloride from the rumen of sheep.
Comp Biochem Physiol A **86**(4): S. 653-656

MARTENS, H. und GÄBEL, G. (1988)
Transport of Na and Cl across the epithelium of ruminant forestomachs: rumen and omasum. A review.
Comp Biochem Physiol A **90**(4): S. 569-575

MARTENS, H.; GÄBEL, G. und LEONARD, S. (1990)
Mechanisms of transport in the epithelium of the rumen of sheep.
Tierärztl Umschau **45**: S. 805-813

MARTENS, H. und HAMMER, U. (1981)
Magnesium and sodium absorption from the isolated sheep rumen during intravenous aldosterone infusion (author's transl).
Dtsch Tierärztl Wochenschr **88**(10): S. 404-407

MARTENS, H. und HARMEYER, J. (1978)
Magnesium transport by isolated rumen epithelium of sheep.
Res Vet Sci **24**(2): S. 161-168

MARTIN-VASALLO, P.; DACKOWSKI, W.; EMANUEL, J. R. und LEVENSON, R. (1989)
Identification of a putative isoform of the Na,K-ATPase beta subunit. Primary structure and tissue-specific expression.
J Biol Chem **264**(8): S. 4613-4618

MASSON, M. J. und PHILLIPSON, A. T. (1951)
The absorption of acetate, propionate and butyrate from the rumen of sheep.
J Physiol **113**(2-3): S. 189-206

MCDERMOTT, J. C. und BONEN, A. (1993)
Endurance training increases skeletal muscle lactate transport.
Acta Physiol Scand **147**(3): S. 323-327

MCDONOUGH, A. A. und FARLEY, R. A. (1993)
Regulation of Na,K-ATPase activity.
Curr Opin Nephrol Hypertens **2**(5): S. 725-734

MENTSCHEL, J.; LEISER, R.; MULLING, C.; PFARRER, C. und CLAUS, R. (2001)
Butyric acid stimulates rumen mucosa development in the calf mainly by a reduction of apoptosis.
Arch Tierernähr **55**(2): S. 85-102

MERINO, A.; MORENO, G.; MERCADO, A.; BOBADILLA, N. A. und GAMBA, G. (2000)
Na(+):K(+):ATPase mRNA expression in the kidney during adaptation to sodium intake and furosemide treatment.
Arch Med Res **31**(5): S. 486-492

MERZENDORFER, H.; GRAF, R.; HUSS, M.; HARVEY, W. R. und WIECZOREK, H. (1997)
Regulation of proton-translocating V-ATPases.
J Exp Biol **200**(Pt 2): S. 225-235

MICKE, P.; OHSHIMA, M.; TAHMASEBPOOR, S.; REN, Z. P.; OSTMAN, A.; PONTEN, F. und BOTLING, J. (2006)
Biobanking of fresh frozen tissue: RNA is stable in nonfixed surgical specimens.
Lab Invest **86**(2): S. 202-211

MIYAMOTO, S.; CHIORINI, J. A.; URCELAY, E. und SAFER, B. (1996)
Regulation of gene expression for translation initiation factor eIF-2 alpha: importance of the 3' untranslated region.
Biochem J **315**(Pt 3): S. 791-798

MOBASHERI, A.; AVILA, J.; COZAR-CASTELLANO, I.; BROWNLEADER, M. D.; TREVAN, M.; FRANCIS, M. J.; LAMB, J. F. und MARTIN-VASALLO, P. (2000)
Na+, K+-ATPase isozyme diversity; comparative biochemistry and physiological implications of novel functional interactions.
Biosci Rep **20**(2): S. 51-91

MORALES, F. C.; TAKAHASHI, Y.; KREIMANN, E. L. und GEORGESCU, M. M. (2004)
Ezrin-radixin-moesin (ERM)-binding phosphoprotein 50 organizes ERM proteins at the apical membrane of polarized epithelia.
Proc Natl Acad Sci U S A **101**(51): S. 17705-17710

MOUNT, D. B. und ROMERO, M. F. (2004)
The SLC26 gene family of multifunctional anion exchangers.
Pflügers Arch **447**(5): S. 710-721

MÜLLER, F.; HUBER, K.; PFANNKUCHE, H.; ASCHENBACH, J. R.; BREVES, G. und GABEL, G. (2002)
Transport of ketone bodies and lactate in the sheep ruminal epithelium by monocarboxylate transporter 1.
Am J Physiol Gastrointest Liver Physiol **283**(5): S. G1139-1146

MUSCH, M. W.; BOOKSTEIN, C.; ROCHA, F.; LUCIONI, A.; REN, H.; DANIEL, J.; XIE, Y.; MCSWINE, R. L.; RAO, M. C.; ALVERDY, J. und CHANG, E. B. (2002)
Region-specific adaptation of apical Na/H exchangers after extensive proximal small bowel resection.
Am J Physiol Gastrointest Liver Physiol **283**(4): S. G975-985

MUSCH, M. W.; BOOKSTEIN, C.; XIE, Y.; SELLIN, J. H. und CHANG, E. B. (2001)
SCFA increase intestinal Na absorption by induction of NHE3 in rat colon and human intestinal C2/bbe cells.
Am J Physiol Gastrointest Liver Physiol **280**(4): S. G687-693

MUTO, S.; NEMOTO, J.; OKADA, K.; MIYATA, Y.; KAWAKAMI, K.; SAITO, T. und ASANO, Y. (2000)
Intracellular Na+ directly modulates Na+,K+-ATPase gene expression in normal rat kidney epithelial cells.
Kidney Int **57**(4): S. 1617-1635

MUTTER, G. L.; ZAHRIEH, D.; LIU, C.; NEUBERG, D.; FINKELSTEIN, D.; BAKER, H. E. und WARRINGTON, J. A. (2004)
Comparison of frozen and RNALater solid tissue storage methods for use in RNA expression microarrays.
BMC Genomics **5**(1): S. 88

NAGAO, Y.; SRINIVASAN, M.; PLATERO, J. S.; SVENDROWSKI, M.; WAHEED, A. und SLY, W. S. (1994)
Mitochondrial carbonic anhydrase (isozyme V) in mouse and rat: cDNA cloning, expression, subcellular localization, processing, and tissue distribution.
Proc Natl Acad Sci U S A **91**(22): S. 10330-10334

NAGARAJA, T. G. und CHENGAPPA, M. M. (1998)
Liver abscesses in feedlot cattle: a review.
J Anim Sci **76**(1): S. 287-298

NAKAMURA, N.; TANAKA, S.; TEKO, Y.; MITSUI, K. und KANAZAWA, H. (2005)
Four Na+/H+ exchanger isoforms are distributed to Golgi and post-Golgi compartments and are involved in organelle pH regulation.
J Biol Chem **280**(2): S. 1561-1572

NAKHOUL, N. L. und HAMM, L. L. (2002)
Vacuolar H(+)-ATPase in the kidney.
J Nephrol **15** Suppl 5: S. S22-31

NANDA, A.; GUKOVSKAYA, A.; TSENG, J. und GRINSTEIN, S. (1992)
Activation of vacuolar-type proton pumps by protein kinase C. Role in neutrophil pH regulation.
J Biol Chem **267**(32): S. 22740-22746

NAWROT, M.; WEST, K.; HUANG, J.; POSSIN, D. E.; BRETSCHER, A.; CRABB, J. W. und SAARI, J. C. (2004)
Cellular retinaldehyde-binding protein interacts with ERM-binding phosphoprotein 50 in retinal pigment epithelium.
Invest Ophthalmol Vis Sci **45**(2): S. 393-401

NELSON, N. (1992)
Organellar proton-ATPases.
Curr Opin Cell Biol **4**(4): S. 654-660

NOCEK, J. E.; HERBEIN, J. H. und POLAN, C. E. (1980)
Influence of ration physical form, ruminal degradable nitrogen and age on rumen epithelial propionate and acetate transport and some enzymatic activities.
J Nutr **110**(12): S. 2355-2364

NOEL, J. und POUYSSEGUR, J. (1995)
Hormonal regulation, pharmacology, and membrane sorting of vertebrate Na+/H+ exchanger isoforms.
Am J Physiol **268**(2 Pt 1): S. C283-296

NOONBERG, S. B.; SCOTT, G. K. und BENZ, C. C. (1995)
Effect of pH on RNA degradation during guanidinium extraction.
Biotechniques **19**(5): S. 731-733

NUMATA, M.; PETRECCA, K.; LAKE, N. und ORLOWSKI, J. (1998)
Identification of a mitochondrial Na+/H+ exchanger.
J Biol Chem **273**(12): S. 6951-6959

OLDHAM, J. M.; MARTYN, J. A.; HUA, K. M.; MACDONALD, N. A.; HODGKINSON, S. C. und BASS, J. J. (1999)
Nutritional regulation of IGF-II, but not IGF-I, is age dependent in sheep.
J Endocrinol **163**(3): S. 395-402

ORLOWSKI, J. und GRINSTEIN, S. (1997)
Na+/H+ exchangers of mammalian cells.
J Biol Chem **272**(36): S. 22373-22376

OSGERBY, J. C.; GADD, T. S. und WATHES, D. C. (2003)
Effect of maternal body condition on placental and fetal growth and the insulin-like growth factor axis in Dorset ewes.
Reproduction **125**(5): S. 717-731

OWENS, F. N.; SECRIST, D. S.; HILL, W. J. und GILL, D. R. (1998)
Acidosis in cattle: a review.
J Anim Sci **76**(1): S. 275-286

PAQUET, M.; KUWAJIMA, M.; YUN, C. C.; SMITH, Y. und HALL, R. A. (2006)
Astrocytic and neuronal localization of the scaffold protein Na+/H+ exchanger regulatory factor 2 (NHERF-2) in mouse brain.
J Comp Neurol **494**(5): S. 752-762

PARK, K. K.; KRYSL, L. J.; MCCRACKEN, B. A.; JUDKINS, M. B. und HOLCOMBE, D. W. (1994)
Steers grazing intermediate wheatgrass at various stages of maturity: effects on nutrient quality, forage intake, digesta kinetics, ruminal fermentation, and serum hormones and metabolites.
J Anim Sci **72**(2): S. 478-486

PEPE, G. J.; BURCH, M. G.; SIBLEY, C. P.; DAVIES, W. A. und ALBRECHT, E. D. (2001)
Expression of the mRNAs and Proteins for the Na(+)/H(+) exchangers and their regulatory factors in baboon and human placental syncytiotrophoblast.
Endocrinology **142**(8): S. 3685-3692

PETERS, J. P.; PAULISSEN, J. B. und ROBINSON, J. A. (1990)
The effects of diet on water flux and volatile fatty acid concentrations in the ru1men of growing beef steers fed once daily.
J Anim Sci **68**(6): S. 1711-1718

PETERSEN, K. U.; WOOD, J. R.; SCHULZE, G. und HEINTZE, K. (1981)
Stimulation of gallbladder fluid and electrolyte absorption by butyrate.
J Membr Biol **62**(3): S. 183-193

PFAFFL, M. W. (2001)
A new mathematical model for relative quantification in real-time RT-PCR.
Nucleic Acids Res **29**(9): S. e45

POOLE, R. C. und HALESTRAP, A. P. (1993)
Transport of lactate and other monocarboxylates across mammalian plasma membranes.
Am J Physiol **264**(4 Pt 1): S. C761-782

PUOPOLO, K.; KUMAMOTO, C.; ADACHI, I.; MAGNER, R. und FORGAC, M. (1992)
Differential expression of the "B" subunit of the vacuolar H(+)-ATPase in bovine tissues.
J Biol Chem **267**(6): S. 3696-3706

QURAISHI, S. und COOK, R. M. (1972)
Utilization of volatile fatty acids in ruminants. IV. Relative activities of acetyl CoA synthetase and acetyl CoA hydrolase in mitochondria and intracellular localization of acetyl CoA synthetase.
J Agric Food Chem **20**(1): S. 91-95

RADONIC, A.; THULKE, S.; MACKAY, I. M.; LANDT, O.; SIEGERT, W. und NITSCHE, A. (2004)
Guideline to reference gene selection for quantitative real-time PCR.
Biochem Biophys Res Commun **313**(4): S. 856-862

RAISANEN, S. R.; LEHENKARI, P.; TASANEN, M.; RAHKILA, P.; HARKONEN, P. L. und VAANANEN, H. K. (1999)
Carbonic anhydrase III protects cells from hydrogen peroxide-induced apoptosis.
Faseb J **13**(3): S. 513-522

RAJENDRAN, V. M. und BINDER, H. J. (2000)
Characterization and molecular localization of anion transporters in colonic epithelial cells.
Ann N Y Acad Sci **915**: S. 15-29

RECZEK, D.; BERRYMAN, M. und BRETSCHER, A. (1997)
Identification of EBP50: A PDZ-containing phosphoprotein that associates with members of the ezrin-radixin-moesin family.
J Cell Biol **139**(1): S. 169-179

RENES, I. B.; VERBURG, M.; VAN NISPEN, D. J.; TAMINIAU, J. A.; BULLER, H. A.; DEKKER, J. und EINERHAND, A. W. (2002)
Epithelial proliferation, cell death, and gene expression in experimental colitis: alterations in carbonic anhydrase I, mucin MUC2, and trefoil factor 3 expression.
Int J Colorectal Dis **17**(5): S. 317-326

RICKS, C. A. und COOK, R. M. (1981)
Regulation of volatile fatty acid uptake by mitochondrial acyl CoA synthetases of bovine liver.
J Dairy Sci **64**(12): S. 2324-2335

RITZHAUPT, A.; ELLIS, A.; HOSIE, K. B. und SHIRAZI-BEECHEY, S. P. (1998a)
The characterization of butyrate transport across pig and human colonic luminal membrane.
J Physiol **507**(Pt 3): S. 819-830

RITZHAUPT, A.; WOOD, I. S.; ELLIS, A.; HOSIE, K. B. und SHIRAZI-BEECHEY, S. P. (1998b)
Identification and characterization of a monocarboxylate transporter (MCT1) in pig and human colon: its potential to transport L-lactate as well as butyrate.
J Physiol **513** (Pt 3): S. 719-732

RITZHAUPT, A.; WOOD, I. S.; ELLIS, A.; HOSIE, K. B. und SHIRAZI-BEECHEY, S. P. (1998c)
Identification of a monocarboxylate transporter isoform type 1 (MCT1) on the luminal membrane of human and pig colon.
Biochem Soc Trans **26**(2): S. S120

ROCHA, F.; MUSCH, M. W.; LISHANSKIY, L.; BOOKSTEIN, C.; SUGI, K.; XIE, Y. und CHANG, E. B. (2001)
IFN-gamma downregulates expression of Na(+)/H(+) exchangers NHE2 and NHE3 in rat intestine and human Caco-2/bbe cells.
Am J Physiol Cell Physiol **280**(5): S. C1224-1232

ROMERO, M. F.; FULTON, C. M. und BORON, W. F. (2004)
The SLC4 family of HCO 3 - transporters.
Pflügers Arch **447**(5): S. 495-509

ROZEN, S. und SKALETSKY, H. (2000)
Primer3 on the WWW for general users and for biologist programmers.
Methods Mol Biol **132**: S. 365-386

SABOLIC, I.; BROWN, D.; GLUCK, S. L. und ALPER, S. L. (1997)
Regulation of AE1 anion exchanger and H(+)-ATPase in rat cortex by acute metabolic acidosis and alkalosis.
Kidney Int **51**(1): S. 125-137

SAKATA, T. und TAMATE, H. (1978)
Rumen epithelial cell proliferation accelerated by rapid increase in intraruminal butyrate.
J Dairy Sci **61**(8): S. 1109-1113

SAMBROOK, J. und FRITSCH, J. D. (1989)
Molecular cloning: a laboratory manual
New York, U.S.A: Cold Spring Harbor Press

SANDER, E. G.; WARNER, R. G.; HARRISON, H. N. und LOOSLI, J. K. (1959)
The stimulatory effect of sodium butyrate and sodium propionate on the development of rumen mucosa in the young calf.
J Dairy Sci **42**: S. 1600-1605

SARVAZYAN, N. A.; MODYANOV, N. N. und ASKARI, A. (1995)
Intersubunit and intrasubunit contact regions of Na+/K(+)-ATPase revealed by controlled proteolysis and chemical cross-linking.
J Biol Chem **270**(44): S. 26528-26532

SAUVE, A. A.; CELIC, I.; AVALOS, J.; DENG, H.; BOEKE, J. D. und SCHRAMM, V. L. (2001)
Chemistry of gene silencing: the mechanism of NAD+-dependent deacetylation reactions.
Biochemistry **40**(51): S. 15456-15463

SCAIFE, J. R. und TICHIVANGANA, J. Z. (1980)
Short chain acyl-CoA synthetases in ovine rumen epithelium.
Biochim Biophys Acta **619**(2): S. 445-450

SCHNEIDER, J. W.; MERCER, R. W.; CAPLAN, M.; EMANUEL, J. R.; SWEADNER, K. J.; BENZ, E. J., JR. und LEVENSON, R. (1985)
Molecular cloning of rat brain Na,K-ATPase alpha-subunit cDNA.
Proc Natl Acad Sci U S A **82**(18): S. 6357-6361

SCHNORR, B. und VOLLMERHAUS, B. (1967)
The microstructure of the epithelium of the rumen of the goat and ox.
Zentralbl Veterinärmed A **14**(9): S. 789-818

SCHROEDER, A.; MUELLER, O.; STOCKER, S.; SALOWSKY, R.; LEIBER, M.; GASSMANN, M.; LIGHTFOOT, S.; MENZEL, W.; GRANZOW, M. und RAGG, T. (2006)
The RIN: an RNA integrity number for assigning integrity values to RNA measurements.
BMC Mol Biol **7**: S. 3

SCHWARTZ, G. J. (2002)
Physiology and molecular biology of renal carbonic anhydrase.
J Nephrol **15** Suppl 5: S. S61-74

SCHWARTZ, G. J.; BROWN, D.; MANKUS, R.; ALEXANDER, E. A. und SCHWARTZ, J. H. (1994)
Low pH enhances expression of carbonic anhydrase II by cultured rat inner medullary collecting duct cells.
Am J Physiol **266**(2 Pt 1): S. C508-514

SCHWARTZ, G. J.; WINKLER, C. A.; ZAVILOWITZ, B. J. und BARGIELLO, T. (1993)
Carbonic anhydrase II mRNA is induced in rabbit kidney cortex during chronic metabolic acidosis.
Am J Physiol **265**(6 Pt 2): S. F764-772

SCHWEIGEL, M.; FREYER, M.; LECLERCQ, S.; ETSCHMANN, B.; LODEMANN, U.; BOTTCHER, A. und MARTENS, H. (2005)
Luminal hyperosmolarity decreases Na transport and impairs barrier function of sheep rumen epithelium.
J Comp Physiol [B] **175**(8): S. 575-591

SCHWEIGEL, M.; LANG, I. und MARTENS, H. (1999)
Mg(2+) transport in sheep rumen epithelium: evidence for an electrodiffusive uptake mechanism.
Am J Physiol **277**(5 Pt 1): S. G976-982

SCHWEIGEL, M. und MARTENS, H. (2000)
Magnesium transport in the gastrointestinal tract.
Front Biosci **5**: S. D666-677

SCHWEIGEL, M. und MARTENS, H. (2003)
Anion-dependent Mg2+ influx and a role for a vacuolar H+-ATPase in sheep ruminal epithelial cells.
Am J Physiol Gastrointest Liver Physiol **285**(1): S. G45-53

SCHWEIGEL, M.; VORMANN, J. und MARTENS, H. (2000)
Mechanisms of Mg(2+) transport in cultured ruminal epithelial cells.
Am J Physiol Gastrointest Liver Physiol **278**(3): S. G400-408

SCOTT, D. (1967)
The effects of potassium supplements upon the absorption of potassium and sodium from the sheep rumen.
Q J Exp Physiol Cogn Med Sci **52**(4): S. 382-391

SEHESTED, J.; ANDERSEN, J. B.; AAES, O.; KRISTENSEN, N. B.; DIERNAES, L.; MOLLER, P. D. und SKADHAUGE, E. (2000)
Feed-induced changes in the transport of butyrate, sodium and chloride ions across the isolated bovine rumen epithelium.
Acta Agric. Scand. Sect. A, Animal Sci. **50**: S. 47-55

SEHESTED, J.; BASSE, A.; ANDERSEN, J. B.; DIERNAES, L.; MOLLER, P. D.; SKADHAUGE, E. und AAES, O. (1997)
Feed-induced changes in transport across the rumen epithelium.
Comp Biochem Physiol A Physiol **118**(2): S. 385-386

SEHESTED, J.; DIERNAES, L.; MOLLER, P. D. und SKADHAUGE, E. (1996)
Transport of sodium across the isolated bovine rumen epithelium: interaction with short-chain fatty acids, chloride and bicarbonate.
Exp Physiol **81**(1): S. 79-94

SEHESTED, J.; DIERNAES, L.; MOLLER, P. D. und SKADHAUGE, E. (1999a)
Ruminal transport and metabolism of short-chain fatty acids (SCFA) in vitro: effect of SCFA chain length and pH.
Comp Biochem Physiol A Mol Integr Physiol **123**(4): S. 359-368

SEHESTED, J.; DIERNAES, L.; MOLLER, P. D. und SKADHAUGE, E. (1999b)
Transport of butyrate across the isolated bovine rumen epithelium--interaction with sodium, chloride and bicarbonate.
Comp Biochem Physiol A Mol Integr Physiol **123**(4): S. 399-408

SEN, A. K. und POST, R. L. (1964)
Stoichiometry and Localization of Adenosine Triphosphate-Dependent Sodium and Potassium Transport in the Erythrocyte.
J Biol Chem **239**: S. 345-352

SHAMRAJ, O. I. und LINGREL, J. B. (1994)
A putative fourth Na+,K(+)-ATPase alpha-subunit gene is expressed in testis.
Proc Natl Acad Sci U S A **91**(26): S. 12952-12956

SHARMA, B. K.; VANDEHAAR, M. J. und AMES, N. K. (1994)
Expression of insulin-like growth factor-I in cows at different stages of lactation and in late lactation cows treated with somatotropin.
J Dairy Sci **77**(8): S. 2232-2241

SHEN, Z.; KUHLA, S.; ZITNAN, R.; SEYFERT, H. M.; SCHNEIDER, F.; HAGEMEISTER, H.; CHUDY, A.; LOHRKE, B.; BLUM, J. W.; HAMMON, H. M. und VOIGT, J. (2005)
Intraruminal infusion of n-butyric acid induces an increase of ruminal papillae size independent of IGF-1 system in castrated bulls.
Arch Anim Nutr **59**(4): S. 213-225

SHEN, Z.; MARTENS, H. und SCHWEIGEL, M. (2004a)
Effects of IGF-1 on Na transport across rumen epithelium and on Na+/H+ exchanger.
in: Proc. Soc. Nutr. Physiol., S. 59

SHEN, Z.; SEYFERT, H. M.; LOHRKE, B.; SCHNEIDER, F.; ZITNAN, R.; CHUDY, A.; KUHLA, S.; HAMMON, H. M.; BLUM, J. W.; MARTENS, H.; HAGEMEISTER, H. und VOIGT, J. (2004b)
An energy-rich diet causes rumen papillae proliferation associated with more IGF type 1 receptors and increased plasma IGF-1 concentrations in young goats.
J Nutr **134**(1): S. 11-17

SHENOLIKAR, S.; VOLTZ, J. W.; CUNNINGHAM, R. und WEINMAN, E. J. (2004)
Regulation of ion transport by the NHERF family of PDZ proteins.
Physiology (Bethesda) **19**: S. 362-369

SHULL, G. E.; GREEB, J. und LINGREL, J. B. (1986)
Molecular cloning of three distinct forms of the Na+,K+-ATPase alpha-subunit from rat brain.
Biochemistry **25**(25): S. 8125-8132

SKOU, J. C. und ESMANN, M. (1992)
The Na,K-ATPase.
J Bioenerg Biomembr **24**(3): S. 249-261

SLY, W. S. und HU, P. Y. (1995)
Human carbonic anhydrases and carbonic anhydrase deficiencies.
Annu Rev Biochem **64**: S. 375-401

SLYTER, L. L. (1976)
Influence of acidosis on rumen function.
J Anim Sci **43**(4): S. 910-929

SMITH, J. S.; BRACHMANN, C. B.; CELIC, I.; KENNA, M. A.; MUHAMMAD, S.; STARAI, V. J.; AVALOS, J. L.; ESCALANTE-SEMERENA, J. C.; GRUBMEYER, C.; WOLBERGER, C. und BOEKE, J. D. (2000)
A phylogenetically conserved NAD+-dependent protein deacetylase activity in the Sir2 protein family.
Proc Natl Acad Sci U S A **97**(12): S. 6658-6663

SOLEIMANI, M. (2002)
Na+:HCO3- cotransporters (NBC): Expression and regulation in the kidney.
J Nephrol **15** Suppl 5: S. S32-40

SOWA, Y. und SAKAI, T. (2000)
Butyrate as a model for "gene-regulating chemoprevention and chemotherapy."
Biofactors **12**(1-4): S. 283-287

STACY, B. D. und WARNER, A. C. (1966)
Balances of water and sodium in the rumen during feeding: osmotic stimulation of sodium absorption in the sheep.
Q J Exp Physiol Cogn Med Sci **51**(2): S. 79-93

STAMOUDIS, V. und COOK, R. M. (1975)
Utilization of volatile fatty acids in ruminants. VII. Acetyl-Coenzyme A Synthetase. A Glycoprotein.
J Agric Food Chem **23**(3): S. 563-567

STANDLEY, P. R.; ZHANG, F.; ZAYAS, R. M.; MUNIYAPPA, R.; WALSH, M. F.; CRAGOE, E. und SOWERS, J. R. (1997)
IGF-I regulation of Na(+)-K(+)-ATPase in rat arterial smooth muscle.
Am J Physiol **273**(1 Pt 1): S. E113-121

STARAI, V. J.; CELIC, I.; COLE, R. N.; BOEKE, J. D. und ESCALANTE-SEMERENA, J. C. (2002)
Sir2-dependent activation of acetyl-CoA synthetase by deacetylation of active lysine.
Science **298**(5602): S. 2390-2392

STARAI, V. J. und ESCALANTE-SEMERENA, J. C. (2004)
Acetyl-coenzyme A synthetase (AMP forming).
Cell Mol Life Sci **61**(16): S. 2020-2030

STEMMER-RACHAMIMOV, A. O.; WIEDERHOLD, T.; NIELSEN, G. P.; JAMES, M.; PINNEY-MICHALOWSKI, D.; ROY, J. E.; COHEN, W. A.; RAMESH, V. und LOUIS, D. N. (2001)
NHE-RF, a merlin-interacting protein, is primarily expressed in luminal epithelia, proliferative endometrium, and estrogen receptor-positive breast carcinomas.
Am J Pathol **158**(1): S. 57-62

STEVENS, C. E. (1964)
Transport of Sodium and Chloride by the Isolated Rumen Epithelium.
Am J Physiol **206**: S. 1099-1105

STEVENS, C. E. und STETTLER, B. K. (1966)
Transport of fatty acid mixtures across rumen epithelium.
Am J Physiol **211**(1): S. 264-271

STEVENS, T. H. und FORGAC, M. (1997)
Structure, function and regulation of the vacuolar (H+)-ATPase.
Annu Rev Cell Dev Biol **13**: S. 779-808

SUPLIE, A. (2005)
Untersuchung der Adaptation des Pansenepithels im zeitlichen Verlauf
Diss., Institut für Veterinär-Physiologie, Freie Universität Berlin

SVERDLOV, E. D.; MONASTYRSKAYA, G. S.; BROUDE, N. E.; USHKARYOV YU, A.; ALLIKMETS, R. L.; MELKOV, A. M.; SMIRNOV YU, V.; MALYSHEV, I. V.; DULOBOVA, I. E.; PETRUKHIN, K. E. und ET AL. (1987)
The family of human Na+,K+-ATPase genes. No less than five genes and/or pseudogenes related to the alpha-subunit.
FEBS Lett **217**(2): S. 275-278

TABARU, H.; IKEDA, K.; KADOTA, E.; MURAKAMI, Y.; YAMADA, H.; SASAKI, N. und TAKEUCHI, A. (1990)
Effects of osmolality on water, electrolytes and VFAs absorption from the isolated ruminoreticulum in the cow.
Nippon Juigaku Zasshi **52**(1): S. 91-96

TAMATE, H.; MCGILLIARD, A. D.; JACOBSON, N. L. und GETTY, R. (1962)
The effect of various dietaries on the anatomical on the anatomical of the stomach of the calf.
J Dairy Sci **45**: S. 408-420

TAMMINGA, S. und VAN VUUREN, A. M. (1988)
Formation and Utilization of End Products of Lignocellulose Degradation in Ruminants.
Animal Feed Science and Technology **21**: S. 141-159

TANG, M. J. und MCDONOUGH, A. A. (1992)
Low K+ increases Na(+)-K(+)-ATPase alpha- and beta-subunit mRNA and protein abundance in cultured renal proximal tubule cells.
Am J Physiol **263**(2 Pt 1): S. C436-442

TAVAKKOL, A.; SIMMEN, F. A. und SIMMEN, R. C. (1988)
Porcine insulin-like growth factor-I (pIGF-I): complementary deoxyribonucleic acid cloning and uterine expression of messenger ribonucleic acid encoding evolutionarily conserved IGF-I peptides.
Mol Endocrinol **2**(8): S. 674-681

THOMAS, R. C. (1969)
Membrane current and intracellular sodium changes in a snail neurone during extrusion of injected sodium.
J Physiol **201**(2): S. 495-514

TRIPP, B. C.; SMITH, K. und FERRY, J. G. (2001)
Carbonic anhydrase: new insights for an ancient enzyme.
J Biol Chem **276**(52): S. 48615-48618

TSURUOKA, S.; KITTELBERGER, A. M. und SCHWARTZ, G. J. (1998)
Carbonic anhydrase II and IV mRNA in rabbit nephron segments: stimulation during metabolic acidosis.
Am J Physiol **274**(2 Pt 2): S. F259-267

UPPAL, S. K.; WOLF, K.; KHAHRA, S. S. und MARTENS, H. (2003a)
Modulation of Na+ transport across isolated rumen epithelium by short-chain fatty acids in hay- and concentrate-fed sheep.
J Anim Physiol Anim Nutr (Berl) **87**(11-12): S. 380-388

UPPAL, S. K.; WOLF, K. und MARTENS, H. (2003b)
The effect of short chain fatty acids on calcium flux rates across isolated rumen epithelium of hay-fed and concentrate-fed sheep.
J Anim Physiol Anim Nutr (Berl) **87**(1-2): S. 12-20

USSING, H. H. (1949)
The active ion transport through the isolated frog skin in the light of tracer studies.
Acta phys scand **17**: S. 1-37

USSING, H. H. und ZERAHN, K. (1951)
Active transport of sodium as the source of electric current in the short-circuited isolated frog skin.
Acta Physiol Scand **23**(2-3): S. 110-127

VANDEHAAR, M. J.; YOUSIF, G.; SHARMA, B. K.; HERDT, T. H.; EMERY, R. S.; ALLEN, M. S. und LIESMAN, J. S. (1999)
Effect of energy and protein density of prepartum diets on fat and protein metabolism of dairy cattle in the periparturient period.
J Dairy Sci **82**(6): S. 1282-1295

VANDESOMPELE, J.; DE PRETER, K.; PATTYN, F.; POPPE, B.; VAN ROY, N.; DE PAEPE, A. und SPELEMAN, F. (2002)
Accurate normalization of real-time quantitative RT-PCR data by geometric averaging of multiple internal control genes.
Genome Biol **3**(7): S. RESEARCH0034

VINOLES, C.; FORSBERG, M.; MARTIN, G. B.; CAJARVILLE, C.; REPETTO, J. und MEIKLE, A. (2005)
Short-term nutritional supplementation of ewes in low body condition affects follicle development due to an increase in glucose and metabolic hormones.
Reproduction **129**(3): S. 299-309

WAKABAYASHI, S.; SHIGEKAWA, M. und POUYSSEGUR, J. (1997)
Molecular physiology of vertebrate Na+/H+ exchangers.
Physiol Rev **77**(1): S. 51-74

WARNER, A. C. und STACY, B. D. (1965)
Solutes in the Rumen of the Sheep.
Q J Exp Physiol Cogn Med Sci **50**: S. 169-184

WARNER, A. C. und STACY, B. D. (1972)
Water, sodium and potassium movements across the rumen wall of sheep.
Q J Exp Physiol Cogn Med Sci **57**(2): S. 103-119

WEALE, A. R.; EDWARDS, A. G.; BAILEY, M. und LEAR, P. A. (2005)
Intestinal adaptation after massive intestinal resection.
Postgrad Med J **81**(953): S. 178-184

WEINMAN, E. J.; CUNNINGHAM, R. und SHENOLIKAR, S. (2005)
NHERF and regulation of the renal sodium-hydrogen exchanger NHE3.
Pflügers Arch **450**(3): S. 137-144

WEINMAN, E. J.; HALL, R. A.; FRIEDMAN, P. A.; LIU-CHEN, L. Y. und SHENOLIKAR, S. (2006)
The Association of Nherf Adaptor Proteins with G Protein-Coupled Receptors and Receptor Tyrosine Kinases.
Annu Rev Physiol **68**: S. 491-505

WEINMAN, E. J.; STEPLOCK, D.; LAMPRECHT, G.; YUN, C. H. und SHENOLIKAR, S. (1999)
Regulation of the Na/H exchanger regulatory factor in OK cells.
Miner Electrolyte Metab **25**(3): S. 135-142

WEINMAN, E. J.; STEPLOCK, D. und SHENOLIKAR, S. (1993)
CAMP-mediated inhibition of the renal brush border membrane Na+-H+ exchanger requires a dissociable phosphoprotein cofactor.
J Clin Invest **92**(4): S. 1781-1786

WEISS, B. (1994)
The relationship between the acidity of the rumen contents and the proliferation status of the rumen mucosa in cattle.
Berl Münch Tierärztl Wochenschr **107**(3): S. 73-78

WILSON, M. C.; JACKSON, V. N.; HEDDLE, C.; PRICE, N. T.; PILEGAARD, H.; JUEL, C.; BONEN, A.; MONTGOMERY, I.; HUTTER, O. F. und HALESTRAP, A. P. (1998)
Lactic acid efflux from white skeletal muscle is catalyzed by the monocarboxylate transporter isoform MCT3.
J Biol Chem **273**(26): S. 15920-15926

WINKLER, C. A.; KITTELBERGER, A. M. und SCHWARTZ, G. J. (1997)
Expression of carbonic anhydrase IV mRNA in rabbit kidney: stimulation by metabolic acidosis.
Am J Physiol **272**(4 Pt 2): S. F551-560

WOHLT, J. E. und BLAISDELL, F. S. (1976)
Effect of sampling location, time, and method of concentration of ammonia nitrogen in rumen fluid.
J Dairy Sci **59**(3): S. 459-464

YUN, C. H.; OH, S.; ZIZAK, M.; STEPLOCK, D.; TSAO, S.; TSE, C. M.; WEINMAN, E. J. und DONOWITZ, M. (1997)
cAMP-mediated inhibition of the epithelial brush border Na+/H+ exchanger, NHE3, requires an associated regulatory protein.
Proc Natl Acad Sci U S A **94**(7): S. 3010-3015

YUN, C. H.; TSE, C. M.; NATH, S.; LEVINE, S. L. und DONOWITZ, M. (1995a)
Structure/function studies of mammalian Na-H exchangers - an update.
J Physiol **482**: S. 1S-6S

YUN, C. H.; TSE, C. M.; NATH, S. K.; LEVINE, S. A.; BRANT, S. R. und DONOWITZ, M. (1995b)
Mammalian Na+/H+ exchanger gene family: structure and function studies.
Am J Physiol **269**(1 Pt 1): S. G1-11

ZACHOS, N. C.; TSE, M. und DONOWITZ, M. (2005)
Molecular physiology of intestinal Na+/H+ exchange.
Annu Rev Physiol **67**: S. 411-443

ZHANG, K.; WANG, Z. Q. und GLUCK, S. (1992)
A cytosolic inhibitor of vacuolar H(+)-ATPases from mammalian kidney.
J Biol Chem **267**(21): S. 14539-14542

ZIEGLER, T. R.; MANTELL, M. P.; CHOW, J. C.; ROMBEAU, J. L. und SMITH, R. J. (1996)
Gut adaptation and the insulin-like growth factor system: regulation by glutamine and IGF-I administration.
Am J Physiol **271**(5 Pt 1): S. G866-875