

7. LITERATURVERZEICHNIS

ACKERMANN, H. (1998)

BIAS. 6.0

Epsilon Verlag, Hochheim, Darmstadt

AGGAZZOTTI, A. (1910)

Esperienze sulla funzione assorbente degli stomaci nei ruminanti

La clinica veterinaria, **33**, 54-75

AGRE, P., G. M. PRESTON, B. L. SMITH, J. S. JUNG, S. RAINA, C. MOON, W. B. GUGGINO und S. NIELSEN (1993)

Aquaporin CHIP: the archetypal molecular water channel

Am. J. Physiol. **265**, F463-F476

ALLEN, M. S. (1997)

Relationship between fermentation acid production in the rumen and the requirement for physically effective fiber

J. Dairy Sci. **80**, 1447-1462

ASH, R. W. und R. N. B. KAY (1963)

Digestive secretions and the flow of food material in the sheep

Progress in nutrition and allied science. Ed. by D. P. Cuthbertson,
Oliver and Boyd, Edinburgh and London, 127-140

Literaturverzeichnis

ATHEN, H. und J. BRUHN (Hrsg.) (1988)

Rechnen und Mathematik

München: Orbis Verlag

BAILEY, C.B. (1961)

Saliva secretion and its relation to feeding cattle: 3. The rate of secretion of mixed saliva in the cow during eating, with an estimate of the magnitude of the total daily secretion of mixed saliva

Br. J. Nutr., **15**, 443-451

BENNINK, M. R., T. R. TYLER, G. M. WARD und D. E. JOHNSEN (1978)

Ionic milieu of bovine and ovine rumen as affected by diet

J. Dairy Sci. **61**, 315-323

BERGEN, W. G. (1972)

Rumen osmolality as a factor in feed intake control of sheep

J. Anim. Sci. **34**, 1054-1060

BIANCA, W. (1970)

Effects of dehydration, rehydration and overhydration on the blood and urine of oxen

Br. Vet. J. **126**, 121-132

BLAIR-WEST J. R. und A. H. BROOK (1969)

Circulatory changes and renin secretion in sheep in response to feeding

J. Physiol. **204**, 15-30

Literaturverzeichnis

BLAIR-WEST, J. R., A. H. BROOK, A. GIBSON, M. MORRIS und P. T. PULLAN (1979)

Renin, antidiuretic hormone and the kidney in water restriction and rehydration

J. Physiol. **294**, 181-193

BLAIR-WEST, J. R., A. P. GIBSON, R. L. WOODS und A. H. BROOK (1985)

Acute reduction of plasma vasopressin levels by rehydration in sheep

Am. J. Physiol. **248**, 68-71

BLAIR-WEST, J. R., D. A. DENTON, J. M. MCKINLEY und R. S. WEISINGER (1989)

Sodium appetite and thirst in cattle subjected to dehydration

Am. J. Physiol. **257**, 1212-1218

BOURGUET, J. und S. JARD (1964)

Un dispositif automatique de mesure et d'enregistrement du flux net d'eau à travers la peau et la vessie des amphibiens

Biochim. Biophys. Acta **88**, 442-444

BUENO, L. (1972)

Etudes des mouvements hydriques au niveau du feuillet chez le mouton

Ann. Rech. veter. **3**, 651-663

CALAMITA, G., W. R. BISHAI, G. M. PRESTON, W. B. GUGGINO und P. AGRE (1995)

Molecular cloning and characterization of AqpZ, a water channel from *Escherichia coli*

J. Biol. Chem. **270**, 29063-29066

Literaturverzeichnis

CASSIDA, K. A. und M. R. STOKES (1986)

Eating and resting salivation in early lactation dairy cows

J. Dairy Sci. **69**, 1282-1292

CHOSHNIAK, I. und A. SHKOLNIK (1978)

The rumen as a protective osmotic mechanism during rapid rehydration in the black bedouin goat

Alfred Benzon Symposium XI, Munksgaard 1978 "Osmotic and Volume Regulation", 344-359

CHRISTOPHERSON, R. J. und A. J. F. WEBSTER (1972)

Changes during eating in oxygen consumption, cardiac function and body fluids of sheep

J. Physiol. **221**, 441-457

CHURCH, D. C. (1975)

Salivary production and function

In: Church, D. C. (ed): Digestive Physiology and nutrition of the ruminants.

Vol. 1. Second edition. Oxford Press, Portland, 61-68

DAHLBORN, K. und B. E. KARLBERG (1985)

Fluid balance during food deprivation and after intraruminal loads of water or isotonic saline in lactating and anoestral goats

Quart. J. Exper. Physiol. **71**, 223-233

DAHLBORN, K. und K. HOLTENIUS (1990)

Fluid absorption from the rumen during rehydration in sheep

Exper. Physiol. **75**, 45-55

Literaturverzeichnis

DAHLBORN, K., K. HOLTENIUS und K. OLSSON (1988)

Effects of intraruminal loads of saline or water followed by voluntary drinking in the dehydrated lactating goat.

Acta physiol. scand.**132**, 67-73

DANIELLI, J. F., M. W. S. HITCHCOCK, R. A. MARSHALL und A. T. PHILLIPSON (1945)

The mechanism of absorption from the rumen as exemplified by the behaviour of acetic, propionic and butyric acids

J. Exper. Biol. **22**, 75-84

DAVIS, J.O. (1974)

The renin-angiotensin system in the control of aldosteron secretion

In: Handb. Exp. Pharmacol., Page, I. H. und F. M. Bumpus (Hrsg), **37**, 322-336, New York

DEEN, P. M. T., M. A. J. VERDIJK, N. V. A. M. KNOERS, B. WIERINGA, L. A. H. MONENS, C. H. VAN OST und B. A. VAN OST (1994)

Requirement of human renal water channel aquaporin-2 for vasopressin-dependent concentration of urine

Sci. **264**, 92-95

DIGIOVANNI, S. R., S. NIELSEN, E. I. CHRISTENSEN und M. A. KNEPPER (1994)

Regulation of collecting duct water channel expression by vasopressin in Brattleboro rat

Proc. Natl. Acad. Sci. USA **91**, 8984-8988

Literaturverzeichnis

DIRKSEN, G., H.-G. LIEBICH, G. BROSI, H. HAGEMEISTER und E. MAYER (1984)
Morphologie der Pansenschleimhaut und Fettsäureresorption beim Rind -
bedeutende Faktoren für die Gesundheit und Leistung
Zbl. Vet. Med. **A 31**, 414-430

DOBSON, A. und A. F. SELLERS (1967)
Water absorption from the rumen
Physiologist **10**, 157

DOBSON, A. und A. T. PHILLIPSON (1958)
The absorption of chloride ions from the reticulo-rumen sac
J. Physiol. **140**, 94-104

DOBSON, A., A. F. SELLERS und T. SHAW GAYLE (1970)
Absorption of water from isolated ventral sac of rumen of the cow
J. Appl. Physiol. **28**, 100-104

DOBSON, A., A. F. SELLERS und V. H. GATEWOOD (1976a)
Absorption and exchange of water across rumen epithelium
Am. J. Physiol. **231**, 1588-1594

DOBSON, A., A. F. SELLERS und V. H. GATEWOOD (1976b)
Dependence of Cr-EDTA absorption from the rumen on luminal osmotic
pressure
Am. J. Physiol. **231**, 1595-1600

Literaturverzeichnis

DOREAU, M., E. FERCHAL und Y. BECKERS (1997)

Effects of level of intake and of available volatile fatty acids on the absorptive capacity of sheep rumen

Small Rumin. Res. **25**, 99-105

DYCE, K. M., W. O. SACK und C. J. G. WENSING (1991)

Das Abdomen der Wiederkäuer: Rumen und Reticulum

In: Anatomie der Haustiere: Lehrbuch für Studium und Praxis. Deutsche Ausgabe. Ferdinand Enke Verlag, Stuttgart, 692-693

ECHEVARRIA, M., E. E. WINDHAGER, S. S. TATE und G. FRINDT (1994)

Cloning and expression of AQP3, a water channel from the medullary collecting duct of rat kidney

Proc. Natl. Acad. Sci. USA **91**, 10997-11001

ECHEVARRIA, M., E. E. WINDHAGER und G. FRINDT (1996)

Selectivity of the renal collecting duct water channel aquaporin-3

J. Biol. Chem. **271**, 25079-25082

EDRISE, M., R. H. SMITH und D. HEWITT (1986)

Exchanges of water and certain water-soluble minerals during passage of digesta through the stomach compartments of young ruminating bovines

Br. J. Nutr. **55**, 157-167

ELLENBERGER, W. (1881)

Zur Anatomie und Physiologie des dritten Magens der Wiederkäuer

Arch. wiss. prakt. Tierhk. **7**, 17-58

Literaturverzeichnis

ENGELHARDT, W. v. (1963a)

Der Wasseraustausch an der Pansenwand

Naturwissenschaften **50**, 357

ENGELHARDT, W. v. (1963b)

Untersuchung über die Regulierung des Wasserhaushaltes des Ziegenpansen.

I. Pansenflüssigkeitsvolumen, Flüssigkeitsausfluß in den Psalter, Nettoflüssigkeitszufluß in den Pansen und Flüssigkeitsaustausch durch die Pansenwand
Pflügers Arch. Physiol. **278**, 141-151

ENGELHARDT, W. v. (1963c)

Untersuchung über die Regulierung des Wasserhaushaltes im Ziegenpansen.

II. Beeinflussung des Nettoflüssigkeitszuflusses in den Pansen

Pflügers Arch. Physiol. **278**, 152-161

ENGELHARDT, W. v. (1966)

Der Wasserdurchtritt durch die Pansenwand bei Veränderung der Osmolarität im Panseninhalt

Pflügers Arch. Physiol. **291**, R 66

ENGELHARDT, W. v. (1969a)

Der Wasserdurchtritt durch die Pansenschleimhaut.

Osmotische, hydrostatische, hämodynamische und humorale Einflüsse

Zbl. Vet. Med. **A 16**, 597-623

Literaturverzeichnis

ENGELHARDT, W. v. (1969b)

Der osmotische Druck im Panseninhalt

Zbl. Vet. Med. **A 16**, 665-690

ENGELHARDT, W. v. und W. NICKEL (1965)

Die Permeabilität für Harnstoff, Antipyrin und Wasser

Pflügers Arch. Physiol. **286**, 57-75

ENGELHARDT, W. v. und H. P. SALLMANN (1972)

Resorption und Sekretion in Pansen des Guanakos (*Lama guanacae*)

Zbl. Vet. Med. **A 19**, 117-132

FAICHNEY, G. J. und R. C. BOSTON (1985)

Movement of water within the body of sheep fed at maintenance under thermoneutral conditions

Austral. J. Biol. Sci. **38**, 85-94

GÄBEL, G., H. MARTENS, M. SUENDERMAN und P. GALFI (1987)

The effect of diet, intraruminal pH and osmolarity on sodium, chloride and magnesium absorption from the temporarily isolated and washed reticulo-rumen of sheep

Quart. J. Exper. Physiol. **72**, 501-511

GÄBEL, G., M. SUENDERMAN und H. MARTENS (1987)

The influence of osmotic pressure, lactic acid and pH on ion and fluid absorption from the washed and temporarily isolated reticulo-rumen of sheep
J. Vet. Med. **A 34**, 220-226

Literaturverzeichnis

GMEINER (1911)

Die klinische Untersuchung der Mägen der Wiederkäuer

Berl. tierärzt. Wochenschr. **43**, 780-783

HAMANN, S., T. ZEUTHEN, M. LA COUR, E. A. NAGELHUS, O. P. OTTERSEN, P. AGRE und S. NIELSEN (1998)

Aquaporins in complex tissues: distribution of aquaporins 1-5 in human and rat eye

Am. J. Physiol. **274**, C1332-C1345

HARMS, C. (1877)

Die Rumination

Dtsch. Z. Tiermed. **3**, 28-40

HARRIS, P. J. und J. A. YOUNG (1977)

Dose-dependent stimulation and inhibition of proximal tubular sodium reabsorption by Angiotensin II in the rat kidney

Pflügers Arch. Physiol. **367**, 295-297

HARRISON, D. G., D. E. BEEVER, D. J. THOMSON und D. F. OSBOURN (1975)

Manipulation of rumen fermentation in sheep by increasing the rate of flow of water from the rumen

J. Agri. Sci. **85**, 93-101

HASEGAWA, H., T. MA, W. SKACH, M. MATTHAY und A. S. VERKMAN (1994)

Molecular cloning of a mercurial-insensitive water channel expressed in selected water transporting tissues

J. Biol. Chem. **269**, 5497-5500

Literaturverzeichnis

HAUFFE, R. und W. v. ENGELHARDT (1975)

Funktion des Blättermagens bei kleinen Hauswiederkäuern

III. Resorption von Wasser

Zbl. Vet. Med. **A 22**, 283-295

HECKER, J. F., O. BUDTZ-OLSEN und M. OSTWALD (1964)

The rumen as a water store in sheep

Aust. J. Agric. Res. **15**, 961-968

HERING, E. (1832)

Physiologie mit steter Berücksichtigung der Pathologie für Tierärzte

J. B. Metzler'sche Buchhandlung, Stuttgart: 85-88 u. 92

HIRAYAMA, B. A., D. D. F. LOO und E. M. WRIGHT (1997)

Cation effects on protein conformation and transport in the Na⁺/glucose cotransporter

J. Biol. Chem. **272**, 2110-2115

HOFMANN, R. R. (1969)

Zur Topographie und Morphologie des Wiederkäuermagens im Hinblick auf seine Funktionen

Zbl. Vet. Med., **Beih. 10**, 58-79 u. 99

HOFMANN, R. R. (1978)

Die Stellung der europäischen Wildwiederkäuer im System der Äsungstypen
Wildbiologische Informationen für den Jäger **1**, 9-18

Literaturverzeichnis

HOFMANN, R. R. (1988)

Morphophysiological evolutionary adaptions of the ruminant digestive system

In: Dobson, A. und Dobson, M. J. (ed): Aspects of digestive physiology in ruminants. Ithaca und London, Comstock Pub. Associates, 1-20

HOFMANN, R. R. und B. SCHNORR (1982)

Die funktionelle Morphologie des Wiederkäuer-Magens

R. R. Hofmann und B. Schnorr (Hrsg.), Ferdinand Enke Verlag, Stuttgart, 110-144

HOLTENIUS, K. und K. DAHLBORN (1990a)

Effects of intraruminal loads of volatile fatty acids, saline and water in food deprived goat.

Small Rumin. Res. **3**, 593-604

HOLTENIUS, K. und K. DAHLBORN (1990b)

Water and sodium movements across the epithelium in feed and food deprived sheep

Quart. J. Exper. Physiol. **75**, 57-67

HOPPE, P., R. N. B. KAY und G. M. O. MALOIY (1975)

The rumen as a reservoir during dehydration and rehydration in the camel
J. Physiol., **254**, 76-77

Literaturverzeichnis

HOSSAINI-HILALI, J., S. BENLAMLIH und K. DAHLBORN (1994)

Effects of dehydration, rehydration and hyperhydration in the lactating and non-lactating black Moroccan goat

Comp. Biochem. Physiol. **109A**, 1017-1026

HOUSE, C. R. (1974)

Water transport in cells und tissues

Edward Arnold (Publishers) LTD., London, 318-356

HUNGATE, R. E. (1942)

The culture of *Eudiplodinium neglectum*, with experiments on the digestion of cellulose

Biol. Bull. **83**, 303-319

HYDEN, S. (1961a)

Observation on the absorption of inorganic ions from the reticulo-rumen of the sheep

Kungl. Lantbr. Högsk. Ann. **27**, 273-285

HYDEN, S. (1961b)

Determination of the amount of fluid in the reticulo-rumen of the sheep and its rate of passage to the omasum

Kungl. Lantbr. Högsk. Ann. **27**, 51-79

Literaturverzeichnis

ISHIBASHI, K., S. SASAKI, K. FUSHIMI, S. UCHIDA, M. KUWAHARA, H. SAITO, T. FURUKAWA, K. NAKAJAMA, Y. YAMAGUCHI, T. GOJOBORI und F. MARUMO (1994)

Molecular cloning and expression of a member of the aquaporin family with permeability to glycerol and urea in addition to water expressed at the basolateral membrane of kidney collecting duct cells

Proc. Natl. Acad. Sci. USA **91**, 6269-6273

ISHIBASHI, K., M. KUWAHARA, Y. GU, Y. KAGEYAMA, A. TOHSAKA, F. SUZUKI, F. MARUMO und S. SASAKI (1997a)

Cloning and functional expression of a new water channel abundantly expressed in the testis also permeable to glycerol and urea

J. Bio. Chem. **272**, 20782- 20786

ISHIBASHI, K., M. KUWAHARA, Y. KAGEYAMA, A. TOHSAKA, F. MARUMO und S. SASAKI (1997b)

Cloning and functional expression of a second new aquaporin abundantly expressed in testis

Biochem. Biophys. Res. Commun. **237**, 714-718

ISHIBASHI, K., M. KUWAHARA, Y. GU, Y. TANAKA, F. MARUMO und S. SASAKI (1998)

Cloning and functional expression of a new aquaporin (AQP9) abundantly expressed in the peripheral leukocytes permeable to water and urea, but not to glycerol

Biochem. Biophys. Res. Commun. **244**, 268-274

Literaturverzeichnis

KATSURA, T., J. -M. VERBAVATZ, J. FARINAS, T. MA, D. A. AUSIELLO, A. S. VERKMAN und D. BROWN (1995)

Constitutive and regulated membrane expression of aquaporin-CHIP and aquaporin-2 water channels in stably transfected LLC-PK1 cells
Proc. Natl. Acad. Sci. USA **92**, 7212-7216

KAUFMANN, W., H. HAGEMEISTER und G. DIRKSEN (1980)

Adaption to changes in dietary composition, level and frequency of feeding
In: Y. Ruckebusch und P. Thivend: Digestive Physiology and Metabolism in Ruminants, MTP Press Ltd., Lancaster, 587-602

KING, J. A., D. J. LUSH und J. C. S. FRAY (1993)

Regulation of renin processing and secretion:
hemiosmotic control and novel secretory pathway
Am. J. Physiol. **265**, 305-320

KURTZ, A. und C. WAGNER (1998)

Role of nitric oxide in the control of renin secretion
Am. J. Physiol. **275**, 849-862

LIEBICH, H.-G., G. DIRKSEN, A. ARBEL, S. DORI und E. MAYER (1987)

Fütterungsabhängige Veränderungen der Pansenschleimhaut von Hochleistungskühen im Zeitraum von der Trockenstellung bis acht Wochen post partum

J. Vet. Med. **A 34**, 661-672

Literaturverzeichnis

LINDEMANN, B. und A. K. SOLOMON (1962)

Permeability of luminal surface of intestinal mucosal cells

J. gen. Physiol. **45**, 801-810

LOO, D. D. F., T. ZEUTHEN, G. CHANDY und E. M. WRIGHT (1996)

Cotransport of water by the Na⁺/glucose cotransporter

Proc. Natl. Acad. Sci. USA **93**, 13367-13370

LÓPEZ, S., F. D. DEB. HOVELL und N. A. MACLEOD (1994)

Osmotic pressure, water kinetics and volatile fatty acid absorption in the rumen of sheep sustained by intragastric infusion

Br. J. Nutr. **71**, 153-168

MA, T., A. FRIGERI, W. SKACH und A. S. VERKMAN (1993)

Cloning of a novel rat kidney cDNA homology to CHIP28 and WCH-CD water channels

Biochem. Biophys. Res. Commun. **197**, 654-659

MA, T., H. HASEGAWA, W. SKACH, A. FRIGERI und A. S. VERKMAN (1994a)

Expression, functional analysis and in situ hybridization of a cloned rat kidney collecting duct water channel

Am. J. Physiol. **266**, C189-C197

MA, T., A. FRIGERI, H. HASEGAWA und A. S. VERKMAN (1994b)

Cloning of a water channel homolog expressed in brain meningeal cells and kidney collecting duct that functions as a stilbene-sensitive glycerol transporter

J. Biol. Chem. **269**, 21845-21849

Literaturverzeichnis

MA, T., B. YANG und A. S. VERKMAN (1995)

Molecular cloning of a human water channel homolog expressed exclusively in kidney: evidence for a gene cluster of MIP family members on chromosome 12

J. Am. Soc. Nephro. **6**, 325

MA, T., B. YANG und A. S. VERKMAN (1997)

Cloning of a novel water and urea-permeable aquaporin from mouse expressed strongly in colon, placenta, liver and heart

Biochem. Biophys. Res. Commun. **240**, 324-328

MACEY, R. I. (1984)

Transport of water and urea in red blood cells

Am. J. Physiol. **246**, 195-203

MALTZ, E., K. OLSSON, S .M. GLICK, F. FYHRQUIST, N. SILANIKOVE, I. CHOSNIAK und A. SHKOLNIK (1984)

Homeostatic responses to water deprivation or hemorrhage in lactating and non-lactating Bedouin Goats

Comp. Biochem. Physiol. **77A**, 79-84

MARTENS, H. (1985)

Magnesium absorption from the temporarily isolated rumen of sheep.

The effect of water absorption and osmotic pressure

Zbl. Vet. Med. **A 32**, 631-635

Literaturverzeichnis

MEINILD, A.-K., D. A. KLAERKE, D. D. F. LOO, E. M. WRIGHT und T. ZEUTHEN (1998)

The human Na+/Glucose cotransporter is a molecular water pump
J. Physiol. **508**, 15-21

MEYER, M. M. und A. S. VERKMAN (1987)

Evidence for water channels in proximal tubule cell membranes
J. Membr. Biol. **96**, 107-119

MULDERS, S. M., G. M. PRESTON, P. M. T. DEEN, W. B. GUGGINO, C. H. VAN OS und P. AGRE (1995)

Water channel properties of major intrinsic protein of lens
J. Biol. Chem. **270**, 9010-9016

MURPHY, M. R., C. L. DAVIS und G. C. McCOY (1983)

Factors affecting water consumption by Holstein cows in early lactation
J. Dairy Sci. **66**, 35-38

MURRAY, M. G., R. S. REID und T. M. SUTHERLAND (1962)

The rate of passage of digesta from the reticulo-rumen of the sheep
J. Physiol. **164**, 26 P

NIELSEN S., C.-L. CHOU, D. MARPLES, E. I. CHRISTENSEN, B. K. KISHORE und M. A. KNEPPER (1995)

Vasopressin increases water permeability of kidney collecting duct by inducing translocation of aquaporin-CD water channels to plasma membrane
Proc. Natl. Acad. Sci. USA **92**, 1013-1017

Literaturverzeichnis

NOCEK, J. E., HEALD, C. W. und C. E. POLAN (1984)

Influence of ration physical form and nitrogen availability on ruminal morphology of growing bull calves
J. Dairy Sci **67**, 334-343

OLSSON, K. und K. DAHLBORN (1989)

Fluid balance during heat stress in lactating goats.
Quart. J. Exper. Physiol. **74**, 645-659

OYAERT, W. und J. H. BOUCKAERT (1961)

A study of the passage of fluid through the sheep's omasum
Res. Vet. Sci. **2**, 41-52

PAGE, I. H. und F. M. BUMPUS (1961)

Angiotensin
Physiol. Rev. **41**, 331-390

PARTHASARATHY, D. und A. T. PHILLIPSON (1953)

The movement of potassium, sodium, chlorid and water across the rumen epithelium of sheep
J. Physiol. **121**, 452-469

PETERS, J. P., J. B. PAULISSEN und J. A. ROBINSON (1990)

The effects of diet on water flux and volatile fatty acid concentrations in the rumen of growing beef steers fed once daily
J. Anim. Sci. **68**, 1711-1718

Literaturverzeichnis

PITTS, R. F. (1974)

Physiology of the kidney and body fluids

Year Book Medical Publisher, Inc., Chicago, 3. Auflage, 242-258

PRESTON, G. M. and P. AGRE (1991)

Isolation of the cDNA for erythrocyte integral membrane protein of

28 kilodalton: member of an ancient channel family

Proc. Natl. Acad. Sci. USA **88**, 11110-11114

PRESTON, G. M., T. P. CARROLL, W. B. GUGGINO und P. AGRE (1992)

Appearance of water channels in Xenopus oocytes expressing red cell

CHIP28 protein

Sci. **256**, 385-387

QUINN, L. Y., W. BURROUGHS und W. C. CHRISTIANSEN (1962)

Continous Culture of ruminal microorganisms in chemically defined medium

Appl. Microbiol. **10**, 583-592

RAINAS, S., G. M. PRESTON, W. B. GUGGINO und P. AGRE (1995)

Molecular cloning and characterization of an aquaporin cDNA from salivary,

lacrimal and respiratory tissues

J. Biol. Chem. **270**, 1908-1912

Literaturverzeichnis

REIZER,J., A. REIZER und M. H. SAIER (1993)

The MIP family of integral membrane channel proteins:
sequence comparisons, evolutionary relationships, reconstructed pathway of
evolution, and proposed functional differentiation of the two repeated halves
of the proteins

Crit. Rev. Biochem. Mol. Biol. **28**, 235-257

RÉMOND, D., F. MESCHY und R. BOIVIN (1996)

Metabolites, water and mineral exchanges across the rumen wall:

Mechanisms and regulation

Ann. Zootech. **45**, 97- 119

SABOLIC', I., T. KATSURA, J. -M. VERBAVATZ und D. BROWN (1995)

The AQP2 water channel: effect of vasopressin treatment, microtubule
disruption, and distribution in neonatal rats

J. Membr. Biol. **143**, 165-175

SASAKI, S., K. ISHIBASHI UND F. MARUMO (1998)

Aquaporin-2 and -3: Representatives of two subgroups of the aquaporin
family colocalized in the kidney collecting duct

Annu. Rev. Physiol. **60**, 199-220

SCHNORR, B. und B. VOLLMERHAUS (1967)

Die Feinstruktur des Pansenepithels von Ziege und Rind

Zbl. Vet. Med. **A 14**, 789-818

Literaturverzeichnis

SCOTT, D. (1975)

Changes in mineral, water and acid-base balance associated with feeding and diet

In: McDonald, I. W. und A. C. I. Warner, (Hrsg.), Digestion and Metabolism in the Ruminant, University of New England, Armidale, 205-215

SHIELS, A. und S. BASSNETT (1996)

Mutations in the founder of the MIP gene family underlie cataract development in the mouse

Nat. Genet. **12**, 212-215

SKACH, W. R. und A. S. VERKMAN (1995)

Topological maturation of aquaporin CHIP at the endoplasmic reticulum
Biophys. J. **68**, A344

SMYTH, D. H. und E. M. WRIGHT (1966)

Streaming potentials in the rat small intestine
J. Physiol. **182**, 591-602

SPERBER, I. und S. HYDEN (1952)

Transport of chloride through the ruminal mucosa.
Nature **169**, 587

STACY, B. D. und A. C. I. WARNER (1966)

Balances of water and sodium in the rumen during feeding:
Osmotic stimulation of sodium absorption in the sheep
Quart. J. Exper. Physiol. **51**, 79-93

Literaturverzeichnis

STACY, B. D. und A. H. BROOK (1965)

Antidiuretic hormone activity in sheep after feeding

Quart. J. Exper. Physiol. **50**, 65-78

STEIN, W. D. (1990)

Channels, carriers and pumps

Harcourt Brace Jovanovich (Hrsg.) Academic Press, INC., San Diego, 39-71

STEVENS, C. E. (1964)

Transport of sodium and chloride by the isolated rumen epithelium

Am. J. Physiol. **206**, 1099-1105

SWEENEY, T. E. und C. A. BEUCHAT (1993)

Limitations of methods of osmometry: measuring the osmolality of biological fluids

Am. J. Physiol. **264**, 469-480

TABURU, H., K. IKEDA, E. KADOTA, Y. MURAKAMI, H. YAMADA, N. SASAKI und A. TAKEUCHI (1990)

Effects of osmolality on water, electrolytes and VFAs absorption from the isolated ruminoreticulum in the cow

Jpn. J. Vet. Sci. **52**, 91-96

TAMMINGA, S. und A. M. VAN VUUREN (1988)

Formation and utilization of end products of lignocellulose in ruminants

Anim. Feed Sci. Technol. 21, 141-159

Literaturverzeichnis

TERNOUTH, J. H. (1967)

Post-Prandial ionic and water exchange in the rumen
Res. Vet. Sci. **8**, 283-293

TERNOUTH, J. H. (1968)

Changes in the thiosulphate space and some constituents of the blood of sheep after feeding
Res. Vet. Sci., **9**, 345-349

THOMPSON, F. (1973)

The effect of frequency of feeding on the flow and composition of duodenal digest in sheep given strawbased diets
Br. J. Nutr. **30**, 87-94

TRAUTMANN, A. (1933)

Beiträge zur Physiologie des Wiederkäuermagens:
6. Über die Resorption im Wiederkäuermagen
Arch. Tierernäh. Tierzucht **9**, 178-193

TSUDA, T. (1957)

Studies on the absorption from the rumen
Tohoku J. Agric. Res. **7**, 231-256

TSUDA, T. (1964)

Absorption of water from the rumen by the use of rumen pouch method
Tohoku J. Agric. Res. **15**, 83-90

Literaturverzeichnis

UNNA, R. (1997)

Über den Wassertransport am Vormagenepithel der schwarzen
Beduinenziege
Berlin: Freie Univ., Fachbereich Veterinärmedizin, Diss.

USSING, H. H. (1949)

The active ion transport through the isolated frog skin in the light of tracer
studies
Acta physiol. scand. **17**, 1-37

VAN HOEK, A. N. und A. S. VERKMAN (1992)

Functional reconstitution of the isolated erythrocyte water channel CHIP28
J. Biol. Chem. **267**, 18267-18269

VAN HOEK, A. N., M. L. HOM, L. H. LUTHJENS, M. D. DEJONG, J. A. DEMPSTER
und C. H. VAN OS (1991)

Functional unit of 30 kDa for proximal tubule water channels as revealed by
radiation inactivation
J. Biol. Chem. **266**, 16633-16635

VAN HOEK, A. N., L. H. LUTHJENS, M. L. HOM, C. H. VAN OS und
J. A. DEMPSTER (1992)

A 30 kDa functional size for the erythrocyte water channel determined in situ
by radiation inactivation
Biochem. Biophys. Res. Commun. **184**, 1331-1338

Literaturverzeichnis

VERBAVATZ, J. -M., D. BROWN, I. SABOLIC', G. VALENTI, D. A. AUSIELLO, A. N.
VAN HOEK, T. MA und A. S. VERKMAN (1993)

Tetrameric assembly of CHIP28 water channels in liposomes and cell
membranes: A freeze-fracture study.
J. Cell Biol. **123**, 605-618

VERKMAN, A. S. (1989)

Mechanisms and regulation of water permeability in the renal epithelia
Am. J. Physiol. **257**, 837-850

VERKMAN, A. S., A. N. VAN HOEK, T. MA, A. FRIGERI, W. R. SKACH, A. MITRA,
B. K. TAMARAPPOO und J. FARINAS (1996)

Water transport across mammalian cell membranes
Am. J. Physiol. **270**, 12-30

VINK, H. (1779)

Vorlesungen über das Wiederkäuen des Rindviehes und die jetzt wütende
Viehseuche.
Vorlesungen 27., 28., 30. und 31. Oktober 1769,
Carl Friedrich Schneider, Leipzig, 17 und 21

WARNER, A. C. I. und B. D. STACY (1965)

Solutes in the rumen of the sheep
Quart. J. Exper. Physiol. **50**, 169-184

Literaturverzeichnis

WARNER, A. C. I. und B. D. STACY (1968a)

The fate of water in the rumen (I. A critical appraisal of the use of soluble markers)

Br. J. Nutr. **22**, 369-387

WARNER, A. C. I. und B. D. STACY (1968b)

The fate of water in the rumen (II. Water balances throughout the feeding cycle in sheep)

Br. J. Nutr. **22**, 389-410

WARNER, A. C. I. und B. D. STACY (1972)

Water, sodium and potassium movements across the rumen wall of sheep

Quart. J. Exper. Physiol. **57**, 103-119

WILDT, E. (1874)

Über die Resorption und Sekretion der Nahrungsbestandteile im Verdauungskanal des Schafes.

J. Landwirtschaft **22**, 1-22

WILDT, E. (1879)

Studien über den Verdauungsprozeß des Schafes

J. Landwirtschaft **27**, 177-248

WILKENS, M. (1872)

Untersuchung über den Magen der wiederkauenden Haustiere.

Wiegandt und Hempel, Berlin, 37

Literaturverzeichnis

WILLES, R. F., V. E. MENDEL und A. R. ROBBLEE (1970)

Water transfer from the reticulorumen in sheep

J. Anim. Sci. **31**, 85-91

WITTENBERG, C., I. CHOSHNIAK, A. SHKOLNIK, K. THURAU und J. ROSENFELD (1986)

Effect of dehydration and rapid rehydration on renal function and on plasma renin and aldosterone levels in the Black Bedouin Goat

Pflügers Arch. Eur. J. Physiol. **406**, 405-408

WRIGHT, E. M. und J. M. DIAMOND (1969)

Patterns of non-electrolyte permeability

Proc. Roy. Soc. B. **172**, 227-271

YAMAMOTO, T., S. SASAKI, K. FUSHIMI, K. ISHIBASHI, E. YAOITA, K. KAWASAKI, F. MARUMO und I. KIHARA (1995)

Vasopressin increases AQP-CD water channel in apical membrane of collecting duct cells in Brattleboro rats

Am. J. Physiol. **268**, 1546-1551

ZAMPIGHI, G. A., J. E. HALL, G. R. EHRING und S. A. SIMON (1989)

The structural organization and protein composition of lens fiber junctions

J. Cell Biol. **108**, 2255-2275

Literaturverzeichnis

ZAMPIIGHI, G. A., M. KREMAN, K. J. BOORER, D. D. F. LOO, F. BEZANILLA, G. CHANDY, J. E. HALL und E. M. WRIGHT (1995)

A method for determining the unitary functional capacity of cloned channels and transporters expressed in *Xenopus laevis* oocytes
J. Membr. Biol. **148**, 65-78

ZEIDEL, M. L., S. V. AMBUDKAR, B. L. SMITH und P. AGRE (1992)

Reconstitution of functional water channels in liposomes containing purified red cell CHIP28 protein
Biochem. **31**, 7436-7440

ZEUTHEN, T (1994)

Cotransport of K^+ , Cl^- and H_2O by membrane proteins from choroid plexus epithelium of *Necturus maculosus*
J. Physiol. **478**, 203-219

ZEUTHEN, T. und W. D. STEIN (1994)

Cotransport of salt and water in membrane proteins: membrane proteins as osmotic engines
J. Membr. Biol. **137**, 179-195

ZEUTHEN, T., A.-K. MEINILD, D. A. KLAERKE, D. D. F. LOO, E. M. WRIGHT, B. BELHAGE und T. LITMAN (1997)

Water transport by the Na^+ /glucose cotransporter under isotonic conditions
Biol. Cell **89**, 307-312

Literaturverzeichnis

ZHANG, R. und A. S. VERKMAN (1991)

Water and urea transport in Xenopus oocytes: expression of mRNA from toad urinary bladder

Am. J. Physiol. **260**, 26-34

ZHANG, R., K. LOGEE und A. S. VERKMAN (1990)

Expression of mRNA coding for kidney and red cell water channels in Xenopus oocytes

J. Biol. Chem. **265**, 15375-15378

ZHANG, R., W. SKACH, H. HASEGAWA, A. N. VAN HOEK und A. S. VERKMAN (1993)

Cloning, functional analysis and cell localization of a kidney proximal tubule water transporter homologous to CHIP28

J. Cell Biol. **120**, 359-369

ZHAO, G. Y., M. DURIC, N. A. MACLEOD, E. ORSKOV, F. D. DEB. HOVELL und Y. L. FENG (1995)

The use of intragastric nutrition to study saliva secretion and the relationship between rumen osmotic pressure and water transport

Br. J. Nutr. **73**, 155-161