

8. REFERENCES

- Adams JM & Cory S. (1998) The Bcl-2 protein family: arbiters of cell survival. *Science* 281(5381): 1322-6.
- Aguzzi A, Heikenwalder M & Miele G. (2004) Progress and problems in the biology, diagnostics, and therapeutics of prion diseases. *J Clin Invest* 114(2): 153-60.
- Albano C, Bacigalupo F & Serrati C. (1984) [Degenerative diseases of the central nervous system: Huntington chorea and zinc]. *Minerva Med* 75(14-15): 841.
- Alper T, Cramp WA, Haig DA & Clarke MC. (1967) Does the agent of scrapie replicate without nucleic acid? *Nature* 214(90): 764-6.
- Andrews AH, Laven R & Matthews JG. (1992) Clinical observations on four cases of scrapie in goats. *Vet Rec* 130(5): 101.
- Aoki M, Ogasawara M, Matsubara Y, Narisawa K, Nakamura S, Itoyama Y & Abe K. (1994) Familial amyotrophic lateral sclerosis (ALS) in Japan associated with H46R mutation in Cu/Zn superoxide dismutase gene: a possible new subtype of familial ALS. *J Neurol Sci* 126(1): 77-83.
- Aronoff-Spencer E, Burns CS, Avdievich NI, Gerfen GJ, Peisach J, Antholine WE, Ball HL, Cohen FE, Prusiner SB & Millhauser GL. (2000) Identification of the Cu²⁺ binding sites in the N-terminal domain of the prion protein by EPR and CD spectroscopy. *Biochemistry* 39(45): 13760-71.
- Baer GS, Ebert DH, Chung CJ, Erickson AH & Dermody TS. (1999) Mutant cells selected during persistent reovirus infection do not express mature cathepsin L and do not support reovirus disassembly. *Journal of virology* 73(11): 9532-43.
- Baier M, Norley S, Schultz J, Burwinkel M, Schwarz A & Riemer C. (2003) Prion diseases: infectious and lethal doses following oral challenge. *J Gen Virol* 84(Pt 7): 1927-9.
- Baldauf E, Beekes M & Diringer H. (1997) Evidence for an alternative direct route of access for the scrapie agent to the brain bypassing the spinal cord. *J Gen Virol* 78 (Pt 5): 1187-97.
- Barkon ML, Haller BL & Virgin HWt. (1996) Circulating immunoglobulin G can play a critical role in clearance of intestinal reovirus infection. *Journal of virology* 70(2): 1109-16.
- Barth A & Zscherp C. (2002) What vibrations tell us about proteins. *Quarterly Reviews of Biophysics* 35(4): 369-430.
- Bartz JC, Marsh RF, McKenzie DI & Aiken JM. (1998) The host range of chronic wasting disease is altered on passage in ferrets. *Virology* 251(2): 297-301.
- Basler K, Oesch B, Scott M, Westaway D, Walchli M, Groth DF, McKinley MP, Prusiner SB & Weissmann C. (1986) Scrapie and cellular PrP isoforms are encoded by the same chromosomal gene. *Cell* 46(3): 417-28.
- Beaver JP & Waring P. (1994) Lack of correlation between early intracellular calcium ion rises and the onset of apoptosis in thymocytes. *Immunol Cell Biol* 72(6): 489-99.
- Beekes M, Baldauf E & Diringer H. (1996) Sequential appearance and accumulation of pathognomonic markers in the central nervous system of hamsters orally infected with scrapie. *J Gen Virol* 77 (Pt 8): 1925-34.
- Beekes M, Baldauf E, Cassens S, Diringer H, Keyes P, Scott AC, Wells GA, Brown P, Gibbs CJ, Jr. & Gajdusek DC. (1995) Western blot mapping of disease-specific amyloid in various animal species and humans with transmissible spongiform encephalopathies using a high-yield purification method. *J Gen Virol* 76 (Pt 10): 2567-76.

8. References

- Beekes M, McBride PA & Baldauf E. (1998) Cerebral targeting indicates vagal spread of infection in hamsters fed with scrapie. *J Gen Virol* 79 (Pt 3): 601-7.
- Bendheim PE, Brown HR, Rudelli RD, Scala LJ, Goller NL, Wen GY, Kascsak RJ, Cashman NR & Bolton DC. (1992) Nearly ubiquitous tissue distribution of the scrapie agent precursor protein. *Neurology* 42(1): 149-56.
- Bensaad K, Tsuruta A, Selak MA, Vidal MN, Nakano K, Bartrons R, Gottlieb E & Vousden KH. (2006) TIGAR, a p53-inducible regulator of glycolysis and apoptosis. *Cell* 126(1): 107-20.
- Bernoulli C, Siegfried J, Baumgartner G, Regli F, Rabinowicz T, Gajdusek DC & Gibbs CJ, Jr. (1977) Danger of accidental person-to-person transmission of Creutzfeldt-Jakob disease by surgery. *Lancet* 1(8009): 478-9.
- Bessen RA & Marsh RF. (1992a) Biochemical and physical properties of the prion protein from two strains of the transmissible mink encephalopathy agent. *J Virol* 66(4): 2096-101.
- Bessen RA & Marsh RF. (1992b) Identification of two biologically distinct strains of transmissible mink encephalopathy in hamsters. *J Gen Virol* 73 (Pt 2): 329-34.
- Bessen RA & Marsh RF. (1994) Distinct PrP properties suggest the molecular basis of strain variation in transmissible mink encephalopathy. *Journal of virology* 68(12): 7859-68.
- Bessen RA, Kocisko DA, Raymond GJ, Nandan S, Lansbury PT & Caughey B. (1995) Non-genetic propagation of strain-specific properties of scrapie prion protein. *Nature* 375(6533): 698-700.
- Bieschke J, Weber P, Sarafoff N, Beekes M, Giese A & Kretzschmar H. (2004) Autocatalytic self-propagation of misfolded prion protein. *Proc Natl Acad Sci U S A* 101(33): 12207-11.
- Blake C & Serpell L. (1996) Synchrotron X-ray studies suggest that the core of the transthyretin amyloid fibril is a continuous beta-sheet helix. *Structure (London, England)* 4(8): 989-98.
- Bolton DC, McKinley MP & Prusiner SB. (1982) Identification of a protein that purifies with the scrapie prion. *Science* 218(4579): 1309-11.
- Booth S, Bowman C, Baumgartner R, Sorensen G, Robertson C, Coulthart M, Phillipson C & Somorjai RL. (2004) Identification of central nervous system genes involved in the host response to the scrapie agent during preclinical and clinical infection. *J Gen Virol* 85(Pt 11): 3459-71.
- Borchelt DR, Taraboulos A & Prusiner SB. (1992) Evidence for synthesis of scrapie prion proteins in the endocytic pathway. *J Biol Chem* 267(23): 16188-99.
- Borsa J, Morash BD, Sargent MD, Copps TP, Lievaart PA & Szekeley JG. (1979) Two modes of entry of reovirus particles into L cells. *The Journal of general virology* 45(1): 161-70.
- Borsa J, Sargent MD, Copps TP, Long DG & Chapman JD. (1973) Specific monovalent cation effects on modification of reovirus infectivity by chymotrypsin digestion in vitro. *Journal of virology* 11(6): 1017-9.
- Borsa J, Sargent MD, Lievaart PA & Copps TP. (1981) Reovirus: evidence for a second step in the intracellular uncoating and transcriptase activation process. *Virology* 111(1): 191-200.
- Bosque PJ, Vnencak-Jones CL, Johnson MD, Whitlock JA & McLean MJ. (1992) A PrP gene codon 178 base substitution and a 24-bp interstitial deletion in familial Creutzfeldt-Jakob disease. *Neurology* 42(10): 1864-70.
- Bratberg B, Ueland K & Wells GA. (1995) Feline spongiform encephalopathy in a cat in Norway. *Vet Rec* 136(17): 444.

8. References

- Brini M, Miuzzo M, Pierobon N, Negro A & Sorgato MC. (2005) The prion protein and its paralogue Doppel affect calcium signaling in Chinese hamster ovary cells. *Mol Biol Cell* 16(6): 2799-808.
- Bristow-Craig HE, Strain JJ & Welch RW. (1994) Iron status, blood lipids and endogenous antioxidants in response to dietary iron levels in male and female rats. *Int J Vitam Nutr Res* 64(4): 324-9.
- Brotherston JG, Renwick CC, Stamp JT, Zlotnik I & Pattison IH. (1968) Spread and scrapie by contact to goats and sheep. *Journal of comparative pathology* 78(1): 9-17.
- Brown DR, Clive C & Haswell SJ. (2001) Antioxidant activity related to copper binding of native prion protein. *J Neurochem* 76(1): 69-76.
- Brown DR, Hafiz F, Glasssmith LL, Wong BS, Jones IM, Clive C & Haswell SJ. (2000) Consequences of manganese replacement of copper for prion protein function and proteinase resistance. *Embo J* 19(6): 1180-6.
- Brown DR, Qin K, Herms JW, Madlung A, Manson J, Strome R, Fraser PE, Kruck T, von Bohlen A, Schulz-Schaeffer W, Giese A, Westaway D & Kretzschmar H. (1997a) The cellular prion protein binds copper in vivo. *Nature* 390(6661): 684-7.
- Brown DR, Schmidt B & Kretzschmar HA. (1998) Effects of copper on survival of prion protein knockout neurons and glia. *J Neurochem* 70(4): 1686-93.
- Brown DR, Schulz-Schaeffer WJ, Schmidt B & Kretzschmar HA. (1997b) Prion protein-deficient cells show altered response to oxidative stress due to decreased SOD-1 activity. *Exp Neurol* 146(1): 104-12.
- Brown DR. (2003) Prion protein expression modulates neuronal copper content. *J Neurochem* 87(2): 377-85.
- Brown LR & Harris DA. (2003) Copper and zinc cause delivery of the prion protein from the plasma membrane to a subset of early endosomes and the Golgi. *J Neurochem* 87(2): 353-63.
- Brown P, Cathala F, Castaigne P & Gajdusek DC. (1986) Creutzfeldt-Jakob disease: clinical analysis of a consecutive series of 230 neuropathologically verified cases. *Ann Neurol* 20(5): 597-602.
- Brown P, Cervenakova L, Goldfarb LG, McCombie WR, Rubenstein R, Will RG, Pocchiari M, Martinez-Lage JF, Scalici C, Masullo C & et al. (1994) Iatrogenic Creutzfeldt-Jakob disease: an example of the interplay between ancient genes and modern medicine. *Neurology* 44(2): 291-3.
- Brown P, Goldfarb LG & Gajdusek DC. (1991) The new biology of spongiform encephalopathy: infectious amyloidoses with a genetic twist. *Lancet* 337(8748): 1019-22.
- Bruce ME & Dickinson AG. (1987) Biological evidence that scrapie agent has an independent genome. *J Gen Virol* 68 (Pt 1): 79-89.
- Bruce ME. (1993) Scrapie strain variation and mutation. *British medical bulletin* 49(4): 822-38.
- Budka H, Aguzzi A, Brown P, Brucher JM, Bugiani O, Gullotta F, Haltia M, Hauw JJ, Ironside JW, Jellinger K & et al. (1995) Neuropathological diagnostic criteria for Creutzfeldt-Jakob disease (CJD) and other human spongiform encephalopathies (prion diseases). *Brain pathology (Zurich, Switzerland)* 5(4): 459-66.
- Bueler H, Aguzzi A, Sailer A, Greiner RA, Autenried P, Aguet M & Weissmann C. (1993) Mice devoid of PrP are resistant to scrapie. *Cell* 73(7): 1339-47.
- Bueler H, Fischer M, Lang Y, Bluethmann H, Lipp HP, DeArmond SJ, Prusiner SB, Aguet M & Weissmann C. (1992) Normal development and behaviour of mice lacking the neuronal cell-surface PrP protein. *Nature* 356(6370): 577-82.

8. References

- Burns CS, Aronoff-Spencer E, Dunham CM, Lario P, Avdievich NI, Antholine WE, Olmstead MM, Vrielink A, Gerfen GJ, Peisach J, Scott WG & Millhauser GL. (2002) Molecular features of the copper binding sites in the octarepeat domain of the prion protein. *Biochemistry* 41(12): 3991-4001.
- Burns CS, Aronoff-Spencer E, Legname G, Prusiner SB, Antholine WE, Gerfen GJ, Peisach J & Millhauser GL. (2003) Copper coordination in the full-length, recombinant prion protein. *Biochemistry* 42(22): 6794-803.
- Bush AI. (2000) Metals and neuroscience. *Curr Opin Chem Biol* 4(2): 184-91.
- Bushell M, Stoneley M, Sarnow P & Willis AE. (2004) Translation inhibition during the induction of apoptosis: RNA or protein degradation? *Biochem Soc Trans* 32(Pt 4): 606-10.
- Byler DM & Susi H. (1986) Examination of the secondary structure of proteins by deconvolved FTIR spectra. *Biopolymers* 25(3): 469-87.
- Camakaris J, Voskoboinik I & Mercer JF. (1999) Molecular mechanisms of copper homeostasis. *Biochemical and biophysical research communications* 261(2): 225-32.
- Card JP, Rinaman L, Schwaber JS, Miselis RR, Whealy ME, Robbins AK & Enquist LW. (1990) Neurotropic properties of pseudorabies virus: uptake and transneuronal passage in the rat central nervous system. *J Neurosci* 10(6): 1974-94.
- Carp RI, Callahan SM, Sersen EA & Moretz RC. (1984) Preclinical changes in weight of scrapie-infected mice as a function of scrapie agent-mouse strain combination. *Intervirology* 21(2): 61-9.
- Casal HL, Kohler U & Mantsch HH. (1988) Structural and conformational changes of beta-lactoglobulin B: an infrared spectroscopic study of the effect of pH and temperature. *Biochim Biophys Acta* 957(1): 11-20.
- Castilla J, Saa P, Hetz C & Soto C. (2005) In vitro generation of infectious scrapie prions. *Cell* 121(2): 195-206.
- Caughey B & Raymond GJ. (1991) The scrapie-associated form of PrP is made from a cell surface precursor that is both protease- and phospholipase-sensitive. *The Journal of biological chemistry* 266(27): 18217-23.
- Caughey B, Race RE & Chesebro B. (1988) Detection of prion protein mRNA in normal and scrapie-infected tissues and cell lines. *The Journal of general virology* 69 (Pt 3): 711-6.
- Caughey B, Raymond GJ & Bessen RA. (1998) Strain-dependent differences in beta-sheet conformations of abnormal prion protein. *The Journal of biological chemistry* 273(48): 32230-5.
- Caughey B, Raymond GJ, Kocisko DA & Lansbury PT, Jr. (1997) Scrapie infectivity correlates with converting activity, protease resistance, and aggregation of scrapie-associated prion protein in guanidine denaturation studies. *J Virol* 71(5): 4107-10.
- Caughey B. (2001) Prion Protein. San Diego.
- Cereghetti GM, Schweiger A, Glockshuber R & Van Doorslaer S. (2001) Electron paramagnetic resonance evidence for binding of Cu(2+) to the C-terminal domain of the murine prion protein. *Biophys J* 81(1): 516-25.
- Chalmers JM & Griffith PR. (2002) Handbook of Vibrational Spectroscopy. Wiley.
- Chandler JA, Sinowatz F, Timms BG & Pierrepont CG. (1977a) The subcellular distribution of zinc in dog prostate studied by x-ray microanalysis. *Cell Tissue Res* 185(1): 89-103.
- Chandler JA, Timms BG & Morton MS. (1977b) Subcellular distribution of zinc in rat prostate studied by x-ray microanalysis: I. Normal prostate. *Histochem J* 9(1): 103-20.

- Chandler RL. (1961) Encephalopathy in mice produced by inoculation with scrapie brain material. *Lancet* 1: 1378-9.
- Chandran K, Farsetta DL & Nibert ML. (2002) Strategy for nonenveloped virus entry: a hydrophobic conformer of the reovirus membrane penetration protein micro 1 mediates membrane disruption. *Journal of virology* 76(19): 9920-33.
- Chandran K, Parker JS, Ehrlich M, Kirchhausen T & Nibert ML. (2003) The delta region of outer-capsid protein micro 1 undergoes conformational change and release from reovirus particles during cell entry. *Journal of virology* 77(24): 13361-75.
- Chen S, Mange A, Dong L, Lehmann S & Schachner M. (2003) Prion protein as trans-interacting partner for neurons is involved in neurite outgrowth and neuronal survival. *Molecular and cellular neurosciences* 22(2): 227-33.
- Chesters JK. (1978) Biochemical functions of zinc in animals. *World Rev Nutr Diet* 32: 135-64.
- Chiarini LB, Freitas AR, Zanata SM, Brentani RR, Martins VR & Linden R. (2002) Cellular prion protein transduces neuroprotective signals. *The EMBO journal* 21(13): 3317-26.
- Chiesa R, Drisaldi B, Quaglio E, Migheli A, Piccardo P, Ghetti B & Harris DA. (2000) Accumulation of protease-resistant prion protein (PrP) and apoptosis of cerebellar granule cells in transgenic mice expressing a PrP insertional mutation. *Proc Natl Acad Sci U S A* 97(10): 5574-9.
- Chiriboga L, Xie P, Yee H, Vigorita V, Zarou D, Zakim D & Diem M. (1998) Infrared spectroscopy of human tissue. I. Differentiation and maturation of epithelial cells in the human cervix. *Biospectroscopy* 4(1): 47-53.
- Choi CJ, Kanthasamy A, Anantharam V & Kanthasamy AG. (2006) Interaction of metals with prion protein: possible role of divalent cations in the pathogenesis of prion diseases. *Neurotoxicology* 27(5): 777-87.
- Choi SI, Ju WK, Choi EK, Kim J, Lea HZ, Carp RI, Wisniewski HM & Kim YS. (1998) Mitochondrial dysfunction induced by oxidative stress in the brains of hamsters infected with the 263 K scrapie agent. *Acta Neuropathol (Berl)* 96(3): 279-86.
- Choo LP, Jackson M, Halliday WC & Mantsch HH. (1993) Infrared spectroscopic characterisation of multiple sclerosis plaques in the human central nervous system. *Biochim Biophys Acta* 1182(3): 333-7.
- Choo LP, Wetzel DL, Halliday WC, Jackson M, LeVine SM & Mantsch HH. (1996) In situ characterization of beta-amyloid in Alzheimer's diseased tissue by synchrotron Fourier transform infrared microspectroscopy. *Biophys J* 71(4): 1672-9.
- Clark AH, Saunderson DH & Suggett A. (1981) Infrared and laser-Raman spectroscopic studies of thermally-induced globular protein gels. *Int J Pept Protein Res* 17(3): 353-64.
- Clarke P, DeBiasi RL, Goody R, Hoyt CC, Richardson-Burns S & Tyler KL. (2005) Mechanisms of reovirus-induced cell death and tissue injury: role of apoptosis and virus-induced perturbation of host-cell signaling and transcription factor activation. *Viral Immunol* 18(1): 89-115.
- Cochius JI, Burns RJ, Blumbergs PC, Mack K & Alderman CP. (1990) Creutzfeldt-Jakob disease in a recipient of human pituitary-derived gonadotrophin. *Aust N Z J Med* 20(4): 592-3.
- Cochius JI, Hyman N & Esiri MM. (1992) Creutzfeldt-Jakob disease in a recipient of human pituitary-derived gonadotrophin: a second case. *J Neurol Neurosurg Psychiatry* 55(11): 1094-5.
- Cohen FE, Pan KM, Huang Z, Baldwin M, Fletterick RJ & Prusiner SB. (1994) Structural clues to prion replication. *Science* 264(5158): 530-1.

8. References

- Colling SB, Collinge J & Jefferys JG. (1996) Hippocampal slices from prion protein null mice: disrupted Ca(2+)-activated K⁺ currents. *Neuroscience letters* 209(1): 49-52.
- Colling SB, Khana M, Collinge J & Jefferys JG. (1997) Mossy fibre reorganization in the hippocampus of prion protein null mice. *Brain research* 755(1): 28-35.
- Collinge J, Palmer MS & Dryden AJ. (1991) Genetic predisposition to iatrogenic Creutzfeldt-Jakob disease. *Lancet* 337(8755): 1441-2.
- Collinge J, Sidle KC, Meads J, Ironside J & Hill AF. (1996) Molecular analysis of prion strain variation and the aetiology of 'new variant' CJD. *Nature* 383(6602): 685-90.
- Collinge J, Whittington MA, Sidle KC, Smith CJ, Palmer MS, Clarke AR & Jefferys JG. (1994) Prion protein is necessary for normal synaptic function. *Nature* 370(6487): 295-7.
- Colussi C, Albertini MC, Coppola S, Rovidati S, Galli F & Ghibelli L. (2000) H₂O₂-induced block of glycolysis as an active ADP-ribosylation reaction protecting cells from apoptosis. *Faseb J* 14(14): 2266-76.
- Connolly JL, Rodgers SE, Clarke P, Ballard DW, Kerr LD, Tyler KL & Dermody TS. (2000) Reovirus-induced apoptosis requires activation of transcription factor NF-kappaB. *J Virol* 74(7): 2981-9.
- Cox DL, Pan J & Singh RR. (2006) A mechanism for copper inhibition of infectious prion conversion. *Biophysical journal* 91(2): L11-3.
- Creutzfeldt HG. (1920) Über eine eigenartige Erkrankung des Zentralnervensystems. Vorläufige Mitteilung. *Z. f. d. ges. Neurol. und Psych.*: 1-18.
- Cronier S, Laude H & Peyrin JM. (2004) Prions can infect primary cultured neurons and astrocytes and promote neuronal cell death. *Proc Natl Acad Sci U S A* 101(33): 12271-6.
- Cuajungco MP & Lees GJ. (1997) Zinc metabolism in the brain: relevance to human neurodegenerative disorders. *Neurobiol Dis* 4(3-4): 137-69.
- Cuille J & Chelle P-L. (1936) La maladie dite tremblante du mouton est-elle inoculable? . *Comptes Rendus Acad Sci* 203: 1552-4.
- Cuille J & Chelle PL. (1939) Transmission experimentale de la Tremblante à la chèvre. *C. R. Ac. Sci* 208: 1058-60.
- Damaschun G, Damaschun H, Fabian H, Gast K, Krober R, Wieske M & Zirwer D. (2000) Conversion of yeast phosphoglycerate kinase into amyloid-like structure. *Proteins* 39(3): 204-11.
- Danial NN, Gramm CF, Scorrano L, Zhang CY, Krauss S, Ranger AM, Datta SR, Greenberg ME, Licklider LJ, Lowell BB, Gygi SP & Korsmeyer SJ. (2003) BAD and glucokinase reside in a mitochondrial complex that integrates glycolysis and apoptosis. *Nature* 424(6951): 952-6.
- DeArmond SJ. (2000) Cerebral amyloidosis in prion diseases. *Amyloid* 7(1): 3-6.
- Deignan ME, Prior M, Stuart LE, Comerford EJ & McMahon HE. (2004) The structure function relationship for the Prion protein. *Journal of Alzheimer's disease* 6(3): 283-9.
- Demaurex N & Distelhorst C. (2003) Cell biology. Apoptosis--the calcium connection. *Science* 300(5616): 65-7.
- Derrien M & Fields BN. (1999) Reovirus type 3 clone 9 increases interleukin-1alpha level in the brain of neonatal, but not adult, mice. *Virology* 257(1): 35-44.
- Derrien M & Fields BN. (2000) Anti-interleukin-3 and anti-nerve growth factor increase neonatal mice survival to reovirus type 3 clone 9 per oral challenge. *J Neuroimmunol* 110(1-2): 209-13.

- Deslys JP, Marce D & Dormont D. (1994) Similar genetic susceptibility in iatrogenic and sporadic Creutzfeldt-Jakob disease. *The Journal of general virology* 75 (Pt 1): 23-7.
- Dickinson AG, Stamp JT & Renwick CC. (1974) Maternal and lateral transmission of scrapie in sheep. *J Comp Pathol* 84(1): 19-25.
- Diedrich JF, Bendheim PE, Kim YS, Carp RI & Haase AT. (1991) Scrapie-associated prion protein accumulates in astrocytes during scrapie infection. *Proceedings of the National Academy of Sciences of the United States of America* 88(2): 375-9.
- Diedrich JF, Carp RI & Haase AT. (1993) Increased expression of heat shock protein, transferrin, and beta 2-microglobulin in astrocytes during scrapie. *Microb Pathog* 15(1): 1-6.
- Diedrich JF, Carp RI & Haase AT. (1993) Increased expression of heat shock protein, transferrin, and beta 2-microglobulin in astrocytes during scrapie. *Microb Pathog* 15(1): 1-6.
- Diem M, Chiriboga L, Lasch P & Pacifico A. (2002) IR spectra and IR spectral maps of individual normal and cancerous cells. *Biopolymers* 67(4-5): 349-53.
- Diringer H, Beekes M & Oberdieck U. (1994) The nature of the scrapie agent: the virus theory. *Ann N Y Acad Sci* 724: 246-58.
- Dodelet VC & Cashman NR. (1998) Prion protein expression in human leukocyte differentiation. *Blood* 91(5): 1556-61.
- Doh-ura K, Tateishi J, Sasaki H, Kitamoto T & Sakaki Y. (1989) Pro----leu change at position 102 of prion protein is the most common but not the sole mutation related to Gerstmann-Straussler syndrome. *Biochemical and biophysical research communications* 163(2): 974-9.
- Dong A, Huang P & Caughey WS. (1990) Protein secondary structures in water from second-derivative amide I infrared spectra. *Biochemistry* 29(13): 3303-8.
- Dong A, Prestrelski SJ, Allison SD & Carpenter JF. (1995) Infrared spectroscopic studies of lyophilization- and temperature-induced protein aggregation. *J Pharm Sci* 84(4): 415-24.
- Dornberger U, Fandrei D, Backmann J, Hubner W, Rahmelow K, Guhrs KH, Hartmann M, Schlott B & Fritzsche H. (1996) A correlation between thermal stability and structural features of staphylokinase and selected mutants: a Fourier-transform infrared study. *Biochim Biophys Acta* 1294(2): 168-76.
- Dubois J, Baydack R, McKenzie E, Booth T & Jackson M. (2003) Scrapie infection investigated by magnetic resonance imaging and Fourier transform infrared microscopy. *Journal of Vibrational Spectroscopy* 32(1): 95-105.
- Duffy P, Wolf J, Collins G, DeVoe AG, Streeten B & Cowen D. (1974) Letter: Possible person-to-person transmission of Creutzfeldt-Jakob disease. *N Engl J Med* 290(12): 692-3.
- Ebert DH, Deussing J, Peters C & Dermody TS. (2002) Cathepsin L and cathepsin B mediate reovirus disassembly in murine fibroblast cells. *The Journal of biological chemistry* 277(27): 24609-17.
- Eghiaian F, Grosclaude J, Lesceu S, Debey P, Doublet B, Treguer E, Rezaei H & Knossow M. (2004) Insight into the PrPC-->PrPSc conversion from the structures of antibody-bound ovine prion scrapie-susceptibility variants. *Proceedings of the National Academy of Sciences of the United States of America* 101(28): 10254-9.
- Fabian H & Mäntele W. (2002) Infrared Spectroscopy of Proteins; in: *Handbook of Vibrational Spectroscopy*. Vol. 5: John Wiley & Sons, p 3399-425.
- Fabian H & Schultz C. (2000) Fourier Transform Infrared Spectroscopy in Peptide and Protein Analysis. *Encyclopedia of Analytical Chemistry*: 5779-803.

8. References

- Fairbairn DW, Carnahan KG, Thwaites RN, Grigsby RV, Holyoak GR & O'Neill KL. (1994) Detection of apoptosis induced DNA cleavage in scrapie-infected sheep brain. *FEMS Microbiol Lett* 115(2-3): 341-6.
- Fernaes S & Land T. (2005) Increased iron-induced oxidative stress and toxicity in scrapie-infected neuroblastoma cells. *Neurosci Lett* 382(3): 217-20.
- Fernaes S, Halldin J, Bedecs K & Land T. (2005a) Changed iron regulation in scrapie-infected neuroblastoma cells. *Brain Res Mol Brain Res* 133(2): 266-73.
- Fernaes S, Reis K, Bedecs K & Land T. (2005b) Increased susceptibility to oxidative stress in scrapie-infected neuroblastoma cells is associated with intracellular iron status. *Neurosci Lett* 389(3): 133-6.
- Fevrier B, Vilette D, Archer F, Loew D, Faigle W, Vidal M, Laude H & Raposo G. (2004) Cells release prions in association with exosomes. *Proceedings of the National Academy of Sciences of the United States of America* 101(26): 9683-8.
- Fevrier B, Vilette D, Laude H & Raposo G. (2005) Exosomes: a bubble ride for prions? *Traffic* 6(1): 10-7.
- Flamand A, Gagner JP, Morrison LA & Fields BN. (1991) Penetration of the nervous systems of suckling mice by mammalian reoviruses. *Journal of virology* 65(1): 123-31.
- Florio T, Grimaldi M, Scorziello A, Salmona M, Bugiani O, Tagliavini F, Forloni G & Schettini G. (1996) Intracellular calcium rise through L-type calcium channels, as molecular mechanism for prion protein fragment 106-126-induced astroglial proliferation. *Biochem Biophys Res Commun* 228(2): 397-405.
- Florio T, Thellung S, Amico C, Robello M, Salmona M, Bugiani O, Tagliavini F, Forloni G & Schettini G. (1998) Prion protein fragment 106-126 induces apoptotic cell death and impairment of L-type voltage-sensitive calcium channel activity in the GH3 cell line. *J Neurosci Res* 54(3): 341-52.
- Fujii T. (1954) Presence of zinc in nucleoli and its possible role in mitosis. *Nature* 174(4441): 1108-9.
- Furukawa H, Kitamoto T, Hashiguchi H & Tateishi J. (1996) A Japanese case of Creutzfeldt-Jakob disease with a point mutation in the prion protein gene at codon 210. *J Neurol Sci* 141(1-2): 120-2.
- Gaggelli E, Bernardi F, Molteni E, Pogni R, Valensin D, Valensin G, Remelli M, Luczkowski M & Kozlowski H. (2005) Interaction of the human prion PrP(106-126) sequence with copper(II), manganese(II), and zinc(II): NMR and EPR studies. *J Am Chem Soc* 127(3): 996-1006.
- Gajdusek DC & Zigas V. (1957) Degenerative disease of the central nervous system in New Guinea; the endemic occurrence of kuru in the native population. *N Engl J Med* 257(20): 974-8.
- Gajdusek DC, Gibbs CJ & Alpers M. (1966) Experimental transmission of a Kuru-like syndrome to chimpanzees. *Nature* 209(25): 794-6.
- Gajdusek DC. (1977) Unconventional viruses and the origin and disappearance of kuru. *Science* 197(4307): 943-60.
- Gajdusek DC. (1994a) Nucleation of amyloidogenesis in infectious and noninfectious amyloidoses of brain. *Ann N Y Acad Sci* 724: 173-90.
- Gajdusek DC. (1994b) Spontaneous generation of infectious nucleating amyloids in the transmissible and nontransmissible cerebral amyloidoses. *Mol Neurobiol* 8(1): 1-13.
- Gajdusek DC. (1996) Infectious amyloides: subacute spongiform encephalopathies as transmissible cerebral amyloidoses. In: B Fields, D Knipe & P Howley editors. *Fields Virology*, Philadelphia: Lippincott-Raven, p 2951-900.
- Gambetti P & Lugaresi E. (1998) Conclusions of the symposium. *Brain pathology (Zurich, Switzerland)* 8(3): 571-5.

- Gambetti P, Kong Q, Zou W, Parchi P & Chen SG. (2003) Sporadic and familial CJD: classification and characterisation. *British medical bulletin* 66: 213-39.
- Gerstmann J, Straeussler E & Scheinker I. (1936) Ueber eine eigenartige hereditaer familiaere Erkrankung des Zentralnervensystems. *Z Neurol* 154: 736-62.
- Ghetti B, Piccardo P, Frangione B, Bugiani O, Giaccone G, Young K, Prelli F, Farlow MR, Dlouhy SR & Tagliavini F. (1996) Prion protein amyloidosis. *Brain pathology (Zurich, Switzerland)* 6(2): 127-45.
- Gibbons RA & Hunter GD. (1967) Nature of the scrapie agent. *Nature* 215(105): 1041-3.
- Gibbons RV, Holman RC, Belay ED & Schonberger LB. (2000) Creutzfeldt-Jakob disease in the United States: 1979-1998. *Jama* 284(18): 2322-3.
- Gibbs CJ, Jr., Gajdusek DC, Asher DM, Alpers MP, Beck E, Daniel PM & Matthews WB. (1968) Creutzfeldt-Jakob disease (spongiform encephalopathy): transmission to the chimpanzee. *Science* 161(839): 388-9.
- Giese A, Groschup MH, Hess B & Kretzschmar HA. (1995) Neuronal cell death in scrapie-infected mice is due to apoptosis. *Brain Pathol* 5(3): 213-21.
- Glenner GG. (1980) Amyloid deposits and amyloidosis. The beta-fibrilloses (first of two parts). *The New England journal of medicine* 302(23): 1283-92.
- Goldfarb LG, Brown P, Haltia M, Cathala F, McCombie WR, Kovanen J, Cervenakova L, Goldin L, Nieto A, Godec MS & et al. (1992) Creutzfeldt-Jakob disease cosegregates with the codon 178Asn PRNP mutation in families of European origin. *Ann Neurol* 31(3): 274-81.
- Goldfarb LG, Brown P, Mitrova E, Cervenakova L, Goldin L, Korczyn AD, Chapman J, Galvez S, Cartier L, Rubenstein R & et al. (1991) Creutzfeldt-Jacob disease associated with the PRNP codon 200Lys mutation: an analysis of 45 families. *Eur J Epidemiol* 7(5): 477-86.
- Goldgaber D, Goldfarb LG, Brown P, Asher DM, Brown WT, Lin S, Teener JW, Feinstein SM, Rubenstein R, Kascsak RJ & et al. (1989) Mutations in familial Creutzfeldt-Jakob disease and Gerstmann-Straussler-Scheinker's syndrome. *Experimental neurology* 106(2): 204-6.
- Goormaghtigh E, Cabiaux V & Ruyschaert JM. (1990) Secondary structure and dosage of soluble and membrane proteins by attenuated total reflection Fourier-transform infrared spectroscopy on hydrated films. *Eur J Biochem* 193(2): 409-20.
- Gottlieb E, Armour SM, Harris MH & Thompson CB. (2003) Mitochondrial membrane potential regulates matrix configuration and cytochrome c release during apoptosis. *Cell Death Differ* 10(6): 709-17.
- Gramaglia D, Gentile A, Battaglia M, Ranzato L, Petronilli V, Fassetta M, Bernardi P & Rasola A. (2004) Apoptosis to necrosis switching downstream of apoptosome formation requires inhibition of both glycolysis and oxidative phosphorylation in a BCL-X(L)- and PKB/AKT-independent fashion. *Cell Death Differ* 11(3): 342-53.
- Grebinyk DM, Koval TV & Matyshevskaja OP. (2004) [Calcium homeostasis during thymocyte apoptosis. I. Increase in cytosolic Ca²⁺ concentration at the early stage of apoptosis induced by hydrogen peroxide]. *Ukr Biokhim Zh* 76(6): 63-9.
- Griffith JS. (1967) Self-replication and scrapie. *Nature* 215(105): 1043-4.
- Groschup MH, Beekes M, McBride PA, Hardt M, Hainfellner JA & Budka H. (1999) Deposition of disease-associated prion protein involves the peripheral nervous system in experimental scrapie. *Acta Neuropathol (Berl)* 98(5): 453-7.
- Guan Z, Soderberg M, Sindelar P, Prusiner SB, Kristensson K & Dallner G. (1996) Lipid composition in scrapie-infected mouse brain: prion infection increases the levels of dolichyl phosphate and ubiquinone. *J Neurochem* 66(1): 277-85.

8. References

- Gudmundsdottir KB, Sigurdarson S, Kristinsson J, Eiriksson T & Johannesson T. (2006) Iron and iron/manganese ratio in forage from Icelandic sheep farms: relation to scrapie. *Acta Vet Scand* 48(1): 16.
- Hadlow WJ. (1995) Neuropathology and the scrapie-kuru connection. *Brain pathology (Zurich, Switzerland)* 5(1): 27-31.
- Hamir AN, Kunkle RA, Cutlip RC, Miller JM, O'Rourke KI, Williams ES, Miller MW, Stack MJ, Chaplin MJ & Richt JA. (2005) Experimental transmission of chronic wasting disease agent from mule deer to cattle by the intracerebral route. *J Vet Diagn Invest* 17(3): 276-81.
- Hamir AN, Kunkle RA, Cutlip RC, Miller JM, Williams ES & Richt JA. (2006a) Transmission of chronic wasting disease of mule deer to Suffolk sheep following intracerebral inoculation. *J Vet Diagn Invest* 18(6): 558-65.
- Hamir AN, Kunkle RA, Miller JM, Bartz JC & Richt JA. (2006b) First and second cattle passage of transmissible mink encephalopathy by intracerebral inoculation. *Vet Pathol* 43(2): 118-26.
- Hamir AN, Kunkle RA, Miller JM, Greenlee JJ & Richt JA. (2006c) Experimental second passage of chronic wasting disease (CWD(mule deer)) agent to cattle. *Journal of comparative pathology* 134(1): 63-9.
- Hamir AN, Miller JM, O'Rourke KI, Bartz JC, Stack MJ & Chaplin MJ. (2004) Transmission of transmissible mink encephalopathy to raccoons (*Procyon lotor*) by intracerebral inoculation. *J Vet Diagn Invest* 16(1): 57-63.
- Harada H, Quearry B, Ruiz-Vela A & Korsmeyer SJ. (2004) Survival factor-induced extracellular signal-regulated kinase phosphorylates BIM, inhibiting its association with BAX and proapoptotic activity. *Proc Natl Acad Sci U S A* 101(43): 15313-7.
- Harmey JH, Doyle D, Brown V & Rogers MS. (1995) The cellular isoform of the prion protein, PrP^c, is associated with caveolae in mouse neuroblastoma (N2a) cells. *Biochem Biophys Res Commun* 210(3): 753-9.
- Harper JD & Lansbury PT, Jr. (1997) Models of amyloid seeding in Alzheimer's disease and scrapie: mechanistic truths and physiological consequences of the time-dependent solubility of amyloid proteins. *Annu Rev Biochem* 66: 385-407.
- Harris DA, Lele P & Snider WD. (1993) Localization of the mRNA for a chicken prion protein by in situ hybridization. *Proceedings of the National Academy of Sciences of the United States of America* 90(9): 4309-13.
- Hartsough GR & Burger D. (1965) Encephalopathy of mink. I. Epizootiologic and clinical observations. *J Infect Dis* 115(4): 387-92.
- Hecker R, Taraboulos A, Scott M, Pan KM, Yang SL, Torchia M, Jendroska K, DeArmond SJ & Prusiner SB. (1992) Replication of distinct scrapie prion isolates is region specific in brains of transgenic mice and hamsters. *Genes Dev* 6(7): 1213-28.
- Herms JW, Korte S, Gall S, Schneider I, Dunker S & Kretschmar HA. (2000) Altered intracellular calcium homeostasis in cerebellar granule cells of prion protein-deficient mice. *J Neurochem* 75(4): 1487-92.
- Hetz C, Russelakis-Carneiro M, Maundrell K, Castilla J & Soto C. (2003) Caspase-12 and endoplasmic reticulum stress mediate neurotoxicity of pathological prion protein. *Embo J* 22(20): 5435-45.
- Hetz C, Russelakis-Carneiro M, Walchli S, Carboni S, Vial-Knecht E, Maundrell K, Castilla J & Soto C. (2005) The disulfide isomerase Grp58 is a protective factor against prion neurotoxicity. *J Neurosci* 25(11): 2793-802.
- Hill AF, Desbruslais M, Joiner S, Sidle KC, Gowland I, Collinge J, Doey LJ & Lantos P. (1997) The same prion strain causes vCJD and BSE. *Nature* 389(6650): 448-50, 526.

8. References

- Holman RC, Khan AS, Belay ED & Schonberger LB. (1996) Creutzfeldt-Jakob disease in the United States, 1979-1994: using national mortality data to assess the possible occurrence of variant cases. *Emerg Infect Dis* 2(4): 333-7.
- Hornshaw MP, McDermott JR, Candy JM & Lakey JH. (1995) Copper binding to the N-terminal tandem repeat region of mammalian and avian prion protein: structural studies using synthetic peptides. *Biochem Biophys Res Commun* 214(3): 993-9.
- Hsiao K, Baker HF, Crow TJ, Poulter M, Owen F, Terwilliger JD, Westaway D, Ott J & Prusiner SB. (1989) Linkage of a prion protein missense variant to Gerstmann-Straussler syndrome. *Nature* 338(6213): 342-5.
- Hsu YT, Wolter KG & Youle RJ. (1997) Cytosol-to-membrane redistribution of Bax and Bcl-X(L) during apoptosis. *Proc Natl Acad Sci U S A* 94(8): 3668-72.
- Huang X, Moir RD, Tanzi RE, Bush AI & Rogers JT. (2004) Redox-active metals, oxidative stress, and Alzheimer's disease pathology. *Ann N Y Acad Sci* 1012: 153-63.
- Ide-Ektessabi A & Rabionet M. (2005) The role of trace metallic elements in neurodegenerative disorders: quantitative analysis using XRF and XANES spectroscopy. *Anal Sci* 21(7): 885-92.
- Ironside JW. (2000) Pathology of variant Creutzfeldt-Jakob disease. *Archives of virology* (16): 143-51.
- Ismail AA, Mantsch HH & Wong PT. (1992) Aggregation of chymotrypsinogen: portrait by infrared spectroscopy. *Biochim Biophys Acta* 1121(1-2): 183-8.
- Jackson GS, Murray I, Hosszu LL, Gibbs N, Waltho JP, Clarke AR & Collinge J. (2001) Location and properties of metal-binding sites on the human prion protein. *Proc Natl Acad Sci U S A* 98(15): 8531-5.
- Jackson M, Ramjiawan B, Hewko M & Mantsch HH. (1998) Infrared microscopic functional group mapping and spectral clustering analysis of hypercholesterolemic rabbit liver. *Cell Mol Biol (Noisy-le-grand)* 44(1): 89-98.
- Jakob A. (1921) Über eigenartige Erkrankungen des Zentralnervensystems mit bemerkenswerten anatomischen Befunden (spastische Pseudosklerose-Encephalomyelopathie mit dissemierten Degenerationsherden). Vorläufige Mitteilung. *Z. Ges. Neurol. Psychiatr* 64: 147-228.
- Jamin N, Miller L, Moncuit J, Fridman WH, Dumas P & Teillaud JL. (2003) Chemical heterogeneity in cell death: combined synchrotron IR and fluorescence microscopy studies of single apoptotic and necrotic cells. *Biopolymers* 72(5): 366-73.
- Janssens K. (2004) X-ray based methods of Analysis. *Comprehensive Analytical Chemistry* XLII.
- Jarrett JT & Lansbury PT, Jr. (1993) Seeding "one-dimensional crystallization" of amyloid: a pathogenic mechanism in Alzheimer's disease and scrapie? *Cell* 73(6): 1055-8.
- Jeffrey M & Wells GA. (1988) Spongiform encephalopathy in a nyala (*Tragelaphus angasi*). *Vet Pathol* 25(5): 398-9.
- Jeffrey M, Goodsir CM, Bruce ME, McBride PA & Scott JR. (1994b) Infection-specific prion protein (PrP) accumulates on neuronal plasmalemma in scrapie-infected mice. *Ann N Y Acad Sci* 724: 327-30.
- Jeffrey M, Goodsir CM, Bruce ME, McBride PA, Fowler N & Scott JR. (1994a) Murine scrapie-infected neurons in vivo release excess prion protein into the extracellular space. *Neurosci Lett* 174(1): 39-42.
- Jobling MF, Huang X, Stewart LR, Barnham KJ, Curtain C, Volitakis I, Perugini M, White AR, Cherny RA, Masters CL, Barrow CJ, Collins SJ, Bush AI & Cappai R.

8. References

- (2001) Copper and zinc binding modulates the aggregation and neurotoxic properties of the prion peptide PrP106-126. *Biochemistry* 40(27): 8073-84.
- Kascsak RJ, Rubenstein R, Merz PA, Tonna-DeMasi M, Fersko R, Carp RI, Wisniewski HM & Diringer H. (1987) Mouse polyclonal and monoclonal antibody to scrapie-associated fibril proteins. *Journal of virology* 61(12): 3688-93.
- Kawahara M, Kuroda Y, Arispe N & Rojas E. (2000) Alzheimer's beta-amyloid, human islet amylin, and prion protein fragment evoke intracellular free calcium elevations by a common mechanism in a hypothalamic GnRH neuronal cell line. *J Biol Chem* 275(19): 14077-83.
- Kiachopoulos S, Heske J, Tatzelt J & Winklhofer KF. (2004) Misfolding of the prion protein at the plasma membrane induces endocytosis, intracellular retention and degradation. *Traffic* 5(6): 426-36.
- Kim NH, Choi JK, Jeong BH, Kim JI, Kwon MS, Carp RI & Kim YS. (2005) Effect of transition metals (Mn, Cu, Fe) and deoxycholic acid (DA) on the conversion of PrPC to PrPres. *Faseb J* 19(7): 783-5.
- Kim NH, Park SJ, Jin JK, Kwon MS, Choi EK, Carp RI & Kim YS. (2000) Increased ferric iron content and iron-induced oxidative stress in the brains of scrapie-infected mice. *Brain Res* 884(1--2): 98-103.
- Kimberlin RH & Walker C. (1977) Characteristics of a short incubation model of scrapie in the golden hamster. *J Gen Virol* 34(2): 295-304.
- Kimberlin RH & Walker CA. (1978) Evidence that the transmission of one source of scrapie agent to hamsters involves separation of agent strains from a mixture. *J Gen Virol* 39(3): 487-96.
- Kimberlin RH & Walker CA. (1988) Pathogenesis of experimental scrapie. *Ciba Foundation symposium* 135: 37-62.
- Kimberlin RH, Walker CA & Fraser H. (1989) The genomic identity of different strains of mouse scrapie is expressed in hamsters and preserved on reisolation in mice. *J Gen Virol* 70 (Pt 8): 2017-25.
- Kimberlin RH. (1982) Scrapie agent: prions or virinos? *Nature* 297(5862): 107-8.
- Kingsbury DT, Kasper KC, Stites DP, Watson JD, Hogan RN & Prusiner SB. (1983) Genetic control of scrapie and Creutzfeldt-Jakob disease in mice. *J Immunol* 131(1): 491-6.
- Kirkwood JK, Wells GA, Wilesmith JW, Cunningham AA & Jackson SI. (1990) Spongiform encephalopathy in an arabian oryx (*Oryx leucoryx*) and a greater kudu (*Tragelaphus strepsiceros*). *Vet Rec* 127(17): 418-20.
- Klatzo I, Gajdusek DC & Zigas V. (1959) Pathology of Kuru. Laboratory investigation; a journal of technical methods and pathology 8(4): 799-847.
- Kneipp J, Beekes M, Lasch P & Naumann D. (2002) Molecular changes of preclinical scrapie can be detected by infrared spectroscopy. *J Neurosci* 22(8): 2989-97.
- Kneipp J, Lasch P, Baldauf E, Beekes M & Naumann D. (2000) Detection of pathological molecular alterations in scrapie-infected hamster brain by Fourier transform infrared (FT-IR) spectroscopy. *Biochim Biophys Acta* 1501(2-3): 189-99.
- Kneipp J, Miller LM, Joncic M, Kittel M, Lasch P, Beekes M & Naumann D. (2003) In situ identification of protein structural changes in prion-infected tissue. *Biochim Biophys Acta* 1639(3): 152-8.
- Kneipp J, Miller LM, Spassov S, Sokolowski F, Lasch P, Beekes M & Naumann D. (2004) Scrapie-infected cells, isolated prions, and recombinant prion protein: a comparative study. *Biopolymers* 74(1-2): 163-7.
- Kneipp J. (2001) Fourier-Transform-Infrarot-mikrospektroskopische Charakterisierung transmissibler spongiformer Enzephalopathien. Berlin: Free University Berlin, p 135.

- Kominsky DJ, Bickel RJ & Tyler KL. (2002) Reovirus-induced apoptosis requires both death receptor- and mitochondrial-mediated caspase-dependent pathways of cell death. *Cell Death Differ* 9(9): 926-33.
- Kong Q, Huang S, Zou W, Vanegas D, Wang M, Wu D, Yuan J, Zheng M, Bai H, Deng H, Chen K, Jenny AL, O'Rourke K, Belay ED, Schonberger LB, Petersen RB, Sy MS, Chen SG & Gambetti P. (2005) Chronic wasting disease of elk: transmissibility to humans examined by transgenic mouse models. *The Journal of neuroscience* 25(35): 7944-9.
- Korte S, Vassallo N, Kramer ML, Kretzschmar HA & Herms J. (2003) Modulation of L-type voltage-gated calcium channels by recombinant prion protein. *J Neurochem* 87(4): 1037-42.
- Krebs B, Wiebelitz A, Balitzki-Korte B, Vassallo N, Paluch S, Mitteregger G, Onodera T, Kretzschmar HA & Herms J. (2007) Cellular prion protein modulates the intracellular calcium response to hydrogen peroxide. *J Neurochem* 100(2): 358-67.
- Kretlow A, Wang Q, Kneipp J, Lasch P, Beekes M, Miller L & Naumann D. (2006) FTIR-microspectroscopy of prion-infected nervous tissue. *Biochim Biophys Acta* 1758(7): 948-59.
- Kretzschmar HA, Prusiner SB, Stowring LE & DeArmond SJ. (1986) Scrapie prion proteins are synthesized in neurons. *Am J Pathol* 122(1): 1-5.
- Kretzschmar HA, Stowring LE, Westaway D, Stubblebine WH, Prusiner SB & Dearmond SJ. (1986a) Molecular cloning of a human prion protein cDNA. *Dna* 5(4): 315-24.
- Kretzschmar HA. (1993) Neuropathology of human prion diseases (spongiform encephalopathies). *Dev Biol Stand* 80: 71-90.
- Krimm S & Bandekar J. (1986) Vibrational spectroscopy and conformation of peptides, polypeptides, and proteins. *Adv Protein Chem* 38: 181-364.
- Krinke GJ & Dietrich FM. (1990) Transneuronal spread of intraperitoneally administered herpes simplex virus type 1 from the abdomen via the vagus nerve to the brains of mice. *J Comp Pathol* 103(3): 301-6.
- Kristensson K, Feuerstein B, Taraboulos A, Hyun WC, Prusiner SB & DeArmond SJ. (1993) Scrapie prions alter receptor-mediated calcium responses in cultured cells. *Neurology* 43(11): 2335-41.
- Kuczus T, Haist I & Groschup MH. (1998) Molecular analysis of bovine spongiform encephalopathy and scrapie strain variation. *J Infect Dis* 178(3): 693-9.
- Kwiatek WM, Galka M, Hanson AL, Paluszkiwicz C & Cichocki T. (2001) XANES as a tool for iron oxidation state determination in tissues. *Journal of Alloys and Compounds* 328(1-2): 276-82.
- Lasch P & Naumann D. (1998) FT-IR microspectroscopic imaging of human carcinoma thin sections based on pattern recognition techniques. *Cell Mol Biol (Noisy-le-grand)* 44(1): 189-202.
- Lasch P & Naumann D. (2006) Spatial resolution in infrared microspectroscopic imaging of tissues. *Biochim Biophys Acta* 1758(7): 814-29.
- Lasch P, Beekes M, Schmitt J & Naumann D. (2006) Detection of preclinical scrapie from serum by infrared spectroscopy and chemometrics. *Anal Bioanal Chem*.
- Lasch P, Haensch W, Naumann D & Diem M. (2004) Imaging of colorectal adenocarcinoma using FT-IR microspectroscopy and cluster analysis. *Biochim Biophys Acta* 1688(2): 176-86.
- Lasch P. (2001 - 2007) Cytospec TM. A Matlab based application for infrared imaging. See <http://www.cytospec.com> for details.

8. References

- Leach SP, Salman MD & Hamar D. (2006) Trace elements and prion diseases: a review of the interactions of copper, manganese and zinc with the prion protein. *Anim Health Res Rev* 7(1-2): 97-105.
- Lehmann S & Harris DA. (1996) Mutant and infectious prion proteins display common biochemical properties in cultured cells. *The Journal of biological chemistry* 271(3): 1633-7.
- Lester DS, Kidder LH, Levin IW & Lewis EN. (1998) Infrared microspectroscopic imaging of the cerebellum of normal and cytarabine treated rats. *Cell Mol Biol (Noisy-le-grand)* 44(1): 29-38.
- Letai A. (2005) Pharmacological manipulation of Bcl-2 family members to control cell death. *J Clin Invest* 115(10): 2648-55.
- Levenson CW. (2005) Trace metal regulation of neuronal apoptosis: from genes to behavior. *Physiol Behav* 86(3): 399-406.
- Levin J, Bertsch U, Kretzschmar H & Giese A. (2005) Single particle analysis of manganese-induced prion protein aggregates. *Biochem Biophys Res Commun* 329(4): 1200-7.
- LeVine SM & Wetzel DLB. (1993) Analysis of brain tissue by FT-IR microspectroscopy. *Appl. Spectrosc. Rev.* 28: 385-412.
- Lewis EN, Gorbach AM, Marcott C & Levin IW. (1996) High-fidelity Fourier transform infrared spectroscopic imaging of primate brain tissue *Appl. Spectrosc. Rev.* 50: 263-9.
- Li G & Bolton DC. (1997) A novel hamster prion protein mRNA contains an extra exon: increased expression in scrapie. *Brain Res* 751(2): 265-74.
- Liberski PP, Asher DM, Yanagihara R, Gibbs CJ, Jr. & Gajdusek DC. (1989) Serial ultrastructural studies of scrapie in hamsters. *J Comp Pathol* 101(4): 429-42.
- Liberski PP. (1988) The occurrence of cytoplasmic lamellar bodies in scrapie-infected and normal hamster brains. *Neuropatol Pol* 26(1): 79-85.
- Linder MC. (2001) Copper and genomic stability in mammals. *Mutat Res* 475(1-2): 141-52.
- Little BW, Brown PW, Rodgers-Johnson P, Perl DP & Gajdusek DC. (1986) Familial myoclonic dementia masquerading as Creutzfeldt-Jakob disease. *Ann Neurol* 20(2): 231-9.
- Loske C, Gerdemann A, Schepl W, Wycislo M, Schinzel R, Palm D, Riederer P & Munch G. (2000) Transition metal-mediated glycooxidation accelerates cross-linking of beta-amyloid peptide. *Eur J Biochem* 267(13): 4171-8.
- Lowenstein DH, Butler DA, Westaway D, McKinley MP, DeArmond SJ & Prusiner SB. (1990) Three hamster species with different scrapie incubation times and neuropathological features encode distinct prion proteins. *Mol Cell Biol* 10(3): 1153-63.
- Lucassen PJ, Williams A, Chung WC & Fraser H. (1995) Detection of apoptosis in murine scrapie. *Neurosci Lett* 198(3): 185-8.
- Lui K, Jackson M, Sowa MG, Ju H, Dixon IM & Mantsch HH. (1996) Modification of the extracellular matrix following myocardial infarction monitored by FTIR spectroscopy. *Biochim Biophys Acta* 1315(2): 73-7.
- M. M. Coleman RJP. (1978) Fourier transform infrared studies on the thermal degradation of polyacrylonitrile. *Journal of Polymer Science: Polymer Physics Edition* 16(5): 821-32.
- Mair T, Zimanyi L, Khoroshyy P, Muller A & Muller SC. (2006) Analysis of the oscillatory kinetics of glycolytic intermediates in a yeast extract by FT-IR spectroscopy. *Biosystems* 83(2-3): 188-94.

8. References

- Malhotra R & Brosius FC, 3rd. (1999) Glucose uptake and glycolysis reduce hypoxia-induced apoptosis in cultured neonatal rat cardiac myocytes. *J Biol Chem* 274(18): 12567-75.
- Manetto V, Medori R, Cortelli P, Montagna P, Tinuper P, Baruzzi A, Rancurel G, Hauw JJ, Vanderhaeghen JJ, Mailloux P & et al. (1992) Fatal familial insomnia: clinical and pathologic study of five new cases. *Neurology* 42(2): 312-9.
- Mann MA, Knipe DM, Fischbach GD & Fields BN. (2002) Type 3 reovirus neuroinvasion after intramuscular inoculation: direct invasion of nerve terminals and age-dependent pathogenesis. *Virology* 303(2): 222-31.
- Manson J, West JD, Thomson V, McBride P, Kaufman MH & Hope J. (1992) The prion protein gene: a role in mouse embryogenesis? *Development* 115(1): 117-22.
- Manson JC, Hope J, Clarke AR, Johnston A, Black C & MacLeod N. (1995) PrP gene dosage and long term potentiation. *Neurodegeneration* 4(1): 113-4.
- Marsh RF & Hadlow WJ. (1992) Transmissible mink encephalopathy. *Rev Sci Tech* 11(2): 539-50.
- Marsh RF & Kimberlin RH. (1975) Comparison of scrapie and transmissible mink encephalopathy in hamsters. II. Clinical signs, pathology, and pathogenesis. *J Infect Dis* 131(2): 104-10.
- Marsh RF, Bessen RA, Lehmann S & Hartsough GR. (1991) Epidemiological and experimental studies on a new incident of transmissible mink encephalopathy. *J Gen Virol* 72 (Pt 3): 589-94.
- Marsh RF, Kincaid AE, Bessen RA & Bartz JC. (2005) Interspecies transmission of chronic wasting disease prions to squirrel monkeys (*Saimiri sciureus*). *Journal of virology* 79(21): 13794-6.
- Martinez A, Haavik J, Flatmark T, Arrondo JL & Muga A. (1996) Conformational properties and stability of tyrosine hydroxylase studied by infrared spectroscopy. Effect of iron/catecholamine binding and phosphorylation. *The Journal of biological chemistry* 271(33): 19737-42.
- Mattson MP & Chan SL. (2003) Calcium orchestrates apoptosis. *Nat Cell Biol* 5(12): 1041-3.
- McBride PA & Beekes M. (1999) Pathological PrP is abundant in sympathetic and sensory ganglia of hamsters fed with scrapie. *Neurosci Lett* 265(2): 135-8.
- McBride PA, Schulz-Schaeffer WJ, Donaldson M, Bruce M, Diringier H, Kretschmar HA & Beekes M. (2001) Early spread of scrapie from the gastrointestinal tract to the central nervous system involves autonomic fibers of the splanchnic and vagus nerves. *J Virol* 75(19): 9320-7.
- McGowan JP. (1922) Scrapie in sheep. *Scott J Agric* 5: 365-75.
- McKenzie D, Bartz J, Mirwald J, Olander D, Marsh R & Aiken J. (1998) Reversibility of scrapie inactivation is enhanced by copper. *J Biol Chem* 273(40): 25545-7.
- McKinley MP, Taraboulos A, Kenaga L, Serban D, Stieber A, DeArmond SJ, Prusiner SB & Gonatas N. (1991) Ultrastructural localization of scrapie prion proteins in cytoplasmic vesicles of infected cultured cells. *Lab Invest* 65(6): 622-30.
- McLean CA, Storey E, Gardner RJ, Tannenberg AE, Cervenakova L & Brown P. (1997) The D178N (cis-129M) "fatal familial insomnia" mutation associated with diverse clinicopathologic phenotypes in an Australian kindred. *Neurology* 49(2): 552-8.
- Medori R, Montagna P, Tritschler HJ, LeBlanc A, Cortelli P, Tinuper P, Lugaresi E & Gambetti P. (1992a) Fatal familial insomnia: a second kindred with mutation of prion protein gene at codon 178. *Neurology* 42(3 Pt 1): 669-70.
- Medori R, Tritschler HJ, LeBlanc A, Villare F, Manetto V, Chen HY, Xue R, Leal S, Montagna P, Cortelli P & et al. (1992b) Fatal familial insomnia, a prion disease

8. References

- with a mutation at codon 178 of the prion protein gene. *N Engl J Med* 326(7): 444-9.
- Meggendorfer F. (1930) Klinische und genealogische Beobachtungen bei einem Fall von spastischer Pseudosklerose. *Gesamte Neurol Psychiatr* 128: 337-41.
- Meyer RK, McKinley MP, Bowman KA, Braunfeld MB, Barry RA & Prusiner SB. (1986) Separation and properties of cellular and scrapie prion proteins. *Proceedings of the National Academy of Sciences of the United States of America* 83(8): 2310-4.
- Mignotte B & Vayssiere JL. (1998) Mitochondria and apoptosis. *Eur J Biochem* 252(1): 1-15.
- Miller LM & Dumas P. (2006) Chemical imaging of biological tissue with synchrotron infrared light. *Biochim Biophys Acta* 1758(7): 846-57.
- Millhauser GL. (2004) Copper binding in the prion protein. *Acc Chem Res* 37(2): 79-85.
- Mironov A, Jr., Latawiec D, Wille H, Bouzamondo-Bernstein E, Legname G, Williamson RA, Burton D, DeArmond SJ, Prusiner SB & Peters PJ. (2003) Cytosolic prion protein in neurons. *J Neurosci* 23(18): 7183-93.
- Mishra RS, Basu S, Gu Y, Luo X, Zou WQ, Mishra R, Li R, Chen SG, Gambetti P, Fujioka H & Singh N. (2004) Protease-resistant human prion protein and ferritin are cotransported across Caco-2 epithelial cells: implications for species barrier in prion uptake from the intestine. *The Journal of neuroscience* 24(50): 11280-90.
- Miura T, Hori-i A & Takeuchi H. (1996) Metal-dependent alpha-helix formation promoted by the glycine-rich octapeptide region of prion protein. *FEBS Lett* 396(2-3): 248-52.
- Mohlenhoff B, Romeo M, Diem M & Wood BR. (2005) Mie-type scattering and non-Beer-Lambert absorption behavior of human cells in infrared microspectroscopy. *Biophys J* 88(5): 3635-40.
- Morise A, Mourot J, Boue C, Combe N, Amsler G, Gripois D, Quignard-Boulange A, Yvan-Charvet L, Fenart E, Weill P & Hermier D. (2006) Gender-related response of lipid metabolism to dietary fatty acids in the hamster. *Br J Nutr* 95(4): 709-20.
- Morrison LA, Sidman RL & Fields BN. (1991) Direct spread of reovirus from the intestinal lumen to the central nervous system through vagal autonomic nerve fibers. *Proc Natl Acad Sci U S A* 88(9): 3852-6.
- Moser M, Colello RJ, Pott U & Oesch B. (1995) Developmental expression of the prion protein gene in glial cells. *Neuron* 14(3): 509-17.
- Mouillet-Richard S, Ermonval M, Chebassier C, Laplanche JL, Lehmann S, Launay JM & Kellermann O. (2000) Signal transduction through prion protein. *Science* 289(5486): 1925-8.
- Nagayama M, Shinohara Y, Furukawa H & Kitamoto T. (1996) Fatal familial insomnia with a mutation at codon 178 of the prion protein gene: first report from Japan. *Neurology* 47(5): 1313-6.
- Naslavsky N, Stein R, Yanai A, Friedlander G & Taraboulos A. (1997) Characterization of detergent-insoluble complexes containing the cellular prion protein and its scrapie isoform. *J Biol Chem* 272(10): 6324-31.
- Natalello A, Ami D, Brocca S, Lotti M & Doglia SM. (2005) Secondary structure, conformational stability and glycosylation of a recombinant *Candida rugosa* lipase studied by Fourier-transform infrared spectroscopy. *Biochem J* 385(Pt 2): 511-7.
- Nishida N, Katamine S, Shigematsu K, Nakatani A, Sakamoto N, Hasegawa S, Nakaoka R, Atarashi R, Kataoka Y & Miyamoto T. (1997) Prion protein is

8. References

- necessary for latent learning and long-term memory retention. *Cellular and molecular neurobiology* 17(5): 537-45.
- Nunomura A, Chiba S, Lippa CF, Cras P, Kaloria RN, Takeda A, Honda K, Smith MA & Perry G. (2004) Neuronal RNA oxidation is a prominent feature of familial Alzheimer's disease. *Neurobiology of disease* 17(1): 108-13.
- Nunomura A, Perry G, Hirai K, Aliev G, Takeda A, Chiba S & Smith MA. (1999a) Neuronal RNA oxidation in Alzheimer's disease and Down's syndrome. *Annals of the New York Academy of Sciences* 893: 362-4.
- Nunomura A, Perry G, Pappolla MA, Wade R, Hirai K, Chiba S & Smith MA. (1999b) RNA oxidation is a prominent feature of vulnerable neurons in Alzheimer's disease. *The Journal of neuroscience* 19(6): 1959-64.
- Nunziante M. (2003) The subcellular trafficking of the prion protein: Characterisation of the function of the PrP^C N-terminus.
- Oberhaus SM, Smith RL, Clayton GH, Dermody TS & Tyler KL. (1997) Reovirus infection and tissue injury in the mouse central nervous system are associated with apoptosis. *Journal of virology* 71(3): 2100-6.
- Odegard AL, Chandran K, Zhang X, Parker JS, Baker TS & Nibert ML. (2004) Putative autocleavage of outer capsid protein micro1, allowing release of myristoylated peptide micro1N during particle uncoating, is critical for cell entry by reovirus. *Journal of virology* 78(16): 8732-45.
- O'Donnell SM, Hansberger MW, Connolly JL, Chappell JD, Watson MJ, Pierce JM, Wetzel JD, Han W, Barton ES, Forrest JC, Valyi-Nagy T, Yull FE, Blackwell TS, Rottman JN, Sherry B & Dermody TS. (2005) Organ-specific roles for transcription factor NF-kappaB in reovirus-induced apoptosis and disease. *J Clin Invest* 115(9): 2341-50.
- Oesch B, Westaway D, Walchli M, McKinley MP, Kent SB, Aebersold R, Barry RA, Tempst P, Teplow DB, Hood LE & et al. (1985) A cellular gene encodes scrapie PrP^{Sc} 27-30 protein. *Cell* 40(4): 735-46.
- Okon M, Bray P & Vucelic D. (1992) ¹H NMR assignments and secondary structure of human beta 2-microglobulin in solution. *Biochemistry* 31(37): 8906-15.
- Okon M, Bray P & Vucelic D. (1992) ¹H NMR assignments and secondary structure of human beta 2-microglobulin in solution. *Biochemistry* 31(37): 8906-15.
- Oleszak EL, Murdoch G, Manuelidis L & Manuelidis EE. (1988) Growth factor production by Creutzfeldt-Jakob disease cell lines. *Journal of virology* 62(9): 3103-8.
- Orem NR, Geoghegan JC, Deleault NR, Kasczak R & Supattapone S. (2006) Copper (II) ions potently inhibit purified PrP^{Sc} amplification. *Journal of neurochemistry* 96(5): 1409-15.
- O'Rourke K. (2005) CWD found in New York. *J Am Vet Med Assoc* 226(10): 1633.
- Otsuki S, Morshed SR, Chowdhury SA, Takayama F, Satoh T, Hashimoto K, Sugiyama K, Amano O, Yasui T, Yokote Y, Akahane K & Sakagami H. (2005) Possible link between glycolysis and apoptosis induced by sodium fluoride. *J Dent Res* 84(10): 919-23.
- Palmer MS, Dryden AJ, Hughes JT & Collinge J. (1991) Homozygous prion protein genotype predisposes to sporadic Creutzfeldt-Jakob disease. *Nature* 352(6333): 340-2.
- Pammer J, Weninger W & Tschachler E. (1998) Human keratinocytes express cellular prion-related protein in vitro and during inflammatory skin diseases. *The American journal of pathology* 153(5): 1353-8.
- Pamphlett R & Kum-Jew S. (2003) Zinc in the spinal cord of a mutant SOD1 mouse model of ALS. *Neuroreport* 14(4): 547-9.

8. References

- Pan KM, Baldwin M, Nguyen J, Gasset M, Serban A, Groth D, Mehlhorn I, Huang Z, Fletterick RJ, Cohen FE & et al. (1993) Conversion of alpha-helices into beta-sheets features in the formation of the scrapie prion proteins. *Proc Natl Acad Sci U S A* 90(23): 10962-6.
- Pan KM, Stahl N & Prusiner SB. (1992) Purification and properties of the cellular prion protein from Syrian hamster brain. *Protein Sci* 1(10): 1343-52.
- Park SK, Choi SI, Jin JK, Choi EK, Kim JI, Carp RI & Kim YS. (2000) Differential expression of Bax and Bcl-2 in the brains of hamsters infected with 263K scrapie agent. *Neuroreport* 11(8): 1677-82.
- Parveen I, Moorby J, Allison G & Jackman R. (2005) The use of non-prion biomarkers for the diagnosis of Transmissible Spongiform Encephalopathies in the live animal. *Vet Res* 36(5-6): 665-83.
- Pauly PC & Harris DA. (1998) Copper stimulates endocytosis of the prion protein. *J Biol Chem* 273(50): 33107-10.
- Perry G, Sayre LM, Atwood CS, Castellani RJ, Cash AD, Rotkamp CA & Smith MA. (2002) The role of iron and copper in the aetiology of neurodegenerative disorders: therapeutic implications. *CNS drugs* 16(5): 339-52.
- Petersen RB, Siedlak SL, Lee HG, Kim YS, Nunomura A, Tagliavini F, Ghetti B, Cras P, Moreira PI, Castellani RJ, Guentchev M, Budka H, Ironside JW, Gambetti P, Smith MA & Perry G. (2005) Redox metals and oxidative abnormalities in human prion diseases. *Acta neuropathologica* 110(3): 232-8.
- Petibois C & Deleris G. (2004) Oxidative stress effects on erythrocytes determined by FT-IR spectrometry. *Analyst* 129(10): 912-6.
- Petibois C, Cazorla G, Poortmans JR & Deleris G. (2003) Biochemical aspects of overtraining in endurance sports : the metabolism alteration process syndrome. *Sports Med* 33(2): 83-94.
- Petros AM, Olejniczak ET & Fesik SW. (2004) Structural biology of the Bcl-2 family of proteins. *Biochim Biophys Acta* 1644(2-3): 83-94.
- Pinton P, Ferrari D, Rapizzi E, Di Virgilio F, Pozzan T & Rizzuto R. (2002) A role for calcium in Bcl-2 action? *Biochimie* 84(2-3): 195-201.
- Plesnila N, Zinkel S, Le DA, Amin-Hanjani S, Wu Y, Qiu J, Chiarugi A, Thomas SS, Kohane DS, Korsmeyer SJ & Moskowitz MA. (2001) BID mediates neuronal cell death after oxygen/ glucose deprivation and focal cerebral ischemia. *Proc Natl Acad Sci U S A* 98(26): 15318-23.
- Pocchiari M, Salvatore M, Cutruzzola F, Genuardi M, Allocatelli CT, Masullo C, Macchi G, Alema G, Galgani S, Xi YG & et al. (1993) A new point mutation of the prion protein gene in Creutzfeldt-Jakob disease. *Ann Neurol* 34(6): 802-7.
- Poggioli GJ, DeBiasi RL, Bickel R, Jotte R, Spalding A, Johnson GL & Tyler KL. (2002) Reovirus-induced alterations in gene expression related to cell cycle regulation. *J Virol* 76(6): 2585-94.
- Poggioli GJ, Dermody TS & Tyler KL. (2001) Reovirus-induced sigma1s-dependent G(2)/M phase cell cycle arrest is associated with inhibition of p34(cdc2). *J Virol* 75(16): 7429-34.
- Poggioli GJ, Keefer C, Connolly JL, Dermody TS & Tyler KL. (2000) Reovirus-induced G(2)/M cell cycle arrest requires sigma1s and occurs in the absence of apoptosis. *J Virol* 74(20): 9562-70.
- Porto-Carreiro I, Fevrier B, Paquet S, Vilette D & Raposo G. (2005) Prions and exosomes: from PrPc trafficking to PrPsc propagation. *Blood Cells Mol Dis* 35(2): 143-8.
- Prado MA, Alves-Silva J, Magalhaes AC, Prado VF, Linden R, Martins VR & Brentani RR. (2004) PrPc on the road: trafficking of the cellular prion protein. *Journal of neurochemistry* 88(4): 769-81.

8. References

- Prasad AS & Oberleas D. (1970) Binding of zinc to amino acids and serum proteins in vitro. *J Lab Clin Med* 76(3): 416-25.
- Prasad AS, Oberleas D, Miller ER & Luecke RW. (1971) Biochemical effects of zinc deficiency: changes in activities of zinc-dependent enzymes and ribonucleic acid and deoxyribonucleic acid content of tissues. *J Lab Clin Med* 77(1): 144-52.
- Prusiner S. (1996) Prions. In: B Fields, D Knipe & P Howley editors. *Fields Virology*, Philadelphia: Lippincott-Raven, p 2901-50.
- Prusiner SB. (1982) Novel proteinaceous infectious particles cause scrapie. *Science* 216(4542): 136-44.
- Prusiner SB. (1997) Prion diseases and the BSE crisis. *Science* 278(5336): 245-51.
- Prusiner SB. (1998) Prions. *Proc Natl Acad Sci U S A* 95(23): 13363-83.
- Prusiner SB. (1999) *Prion Biology and Diseases*. New York: Cold Spring Harbor Laboratory Press.
- Purdey M. (1996a) The UK epidemic of BSE: slow virus or chronic pesticide-initiated modification of the prion protein? Part 1: Mechanisms for a chemically induced pathogenesis/transmissibility. *Med Hypotheses* 46(5): 429-43.
- Purdey M. (1996b) The UK epidemic of BSE: slow virus or chronic pesticide-initiated modification of the prion protein? Part 2: An epidemiological perspective. *Med Hypotheses* 46(5): 445-54.
- Quaglio E, Chiesa R & Harris DA. (2001) Copper converts the cellular prion protein into a protease-resistant species that is distinct from the scrapie isoform. *The Journal of biological chemistry* 276(14): 11432-8.
- Raeber AJ, Race RE, Brandner S, Priola SA, Sailer A, Bessen RA, Mucke L, Manson J, Aguzzi A, Oldstone MB, Weissmann C & Chesebro B. (1997) Astrocyte-specific expression of hamster prion protein (PrP) renders PrP knockout mice susceptible to hamster scrapie. *The EMBO journal* 16(20): 6057-65.
- Raymond GJ, Bossers A, Raymond LD, O'Rourke KI, McHolland LE, Bryant PK, 3rd, Miller MW, Williams ES, Smits M & Caughey B. (2000) Evidence of a molecular barrier limiting susceptibility of humans, cattle and sheep to chronic wasting disease. *Embo J* 19(17): 4425-30.
- Reder AT, Mednick AS, Brown P, Spire JP, Van Cauter E, Wollmann RL, Cervenakova L, Goldfarb LG, Garay A, Ovsiew F & et al. (1995) Clinical and genetic studies of fatal familial insomnia. *Neurology* 45(6): 1068-75.
- Reilly CE. (2000) Nonpathogenic prion protein (PrPc) acts as a cell-surface signal transducer. *Journal of neurology* 247(10): 819-20.
- Reztsova VV. (2006) [Role of glycolysis in initiation of immortality and apoptosis]. *Vopr Onkol* 52(6): 609-15.
- Ricchelli F, Buggio R, Drago D, Salmona M, Forloni G, Negro A, Tognon G & Zatta P. (2006) Aggregation/fibrillogenesis of recombinant human prion protein and Gerstmann-Straussler-Scheinker disease peptides in the presence of metal ions. *Biochemistry* 45(21): 6724-32.
- Richardson EP, Jr. & Masters CL. (1995) The nosology of Creutzfeldt-Jakob disease and conditions related to the accumulation of PrPCJD in the nervous system. *Brain pathology (Zurich, Switzerland)* 5(1): 33-41.
- Richardson-Burns SM, Kominsky DJ & Tyler KL. (2002) Reovirus-induced neuronal apoptosis is mediated by caspase 3 and is associated with the activation of death receptors. *J Neurovirol* 8(5): 365-80.
- Riemer C, Queck I, Simon D, Kurth R & Baier M. (2000) Identification of upregulated genes in scrapie-infected brain tissue. *J Virol* 74(21): 10245-8.
- Rizzuto R, Pinton P, Ferrari D, Chami M, Szabadkai G, Magalhaes PJ, Di Virgilio F & Pozzan T. (2003) Calcium and apoptosis: facts and hypotheses. *Oncogene* 22(53): 8619-27.

8. References

- Robakis NK, Devine-Gage EA, Jenkins EC, Kascsak RJ, Brown WT, Krawczun MS & Silverman WP. (1986) Localization of a human gene homologous to the PrP gene on the p arm of chromosome 20 and detection of PrP-related antigens in normal human brain. *Biochem Biophys Res Commun* 140(2): 758-65.
- Robertson C, Booth SA, Beniac DR, Coulthart MB, Booth TF & McNicol A. (2006) Cellular prion protein is released on exosomes from activated platelets. *Blood* 107(10): 3907-11.
- Rodgers SE, Barton ES, Oberhaus SM, Pike B, Gibson CA, Tyler KL & Dermody TS. (1997) Reovirus-induced apoptosis of MDCK cells is not linked to viral yield and is blocked by Bcl-2. *J Virol* 71(3): 2540-6.
- Romeo MJ, Quinn MA, Burden FR & McNaughton D. (2002) Influence of benign cellular changes in diagnosis of cervical cancer using IR microspectroscopy. *Biopolymers* 67(4-5): 362-6.
- Rossi G, Macchi G, Porro M, Giaccone G, Bugiani M, Scarpini E, Scarlato G, Molini GE, Sasanelli F, Bugiani O & Tagliavini F. (1998) Fatal familial insomnia: genetic, neuropathologic, and biochemical study of a patient from a new Italian kindred. *Neurology* 50(3): 688-92.
- Roucou X, Giannopoulos PN, Zhang Y, Jodoin J, Goodyer CG & LeBlanc A. (2005) Cellular prion protein inhibits proapoptotic Bax conformational change in human neurons and in breast carcinoma MCF-7 cells. *Cell Death Differ* 12(7): 783-95.
- Roucou X, Guo Q, Zhang Y, Goodyer CG & LeBlanc AC. (2003) Cytosolic prion protein is not toxic and protects against Bax-mediated cell death in human primary neurons. *The Journal of biological chemistry* 278(42): 40877-81.
- Russelakis-Carneiro M, Saborio GP, Anderes L & Soto C. (2002) Changes in the glycosylation pattern of prion protein in murine scrapie. Implications for the mechanism of neurodegeneration in prion diseases. *J Biol Chem* 277(39): 36872-7.
- Sabin AB. (1959) Reoviruses. A new group of respiratory and enteric viruses formerly classified as ECHO type 10 is described. *Science* 130: 1387-9.
- Sakaguchi S, Katamine S, Nishida N, Moriuchi R, Shigematsu K, Sugimoto T, Nakatani A, Kataoka Y, Houtani T, Shirabe S, Okada H, Hasegawa S, Miyamoto T & Noda T. (1996) Loss of cerebellar Purkinje cells in aged mice homozygous for a disrupted PrP gene. *Nature* 380(6574): 528-31.
- Sakudo A, Lee DC, Yoshimura E, Nagasaka S, Nitta K, Saeki K, Matsumoto Y, Lehmann S, Itohara S, Sakaguchi S & Onodera T. (2004) Prion protein suppresses perturbation of cellular copper homeostasis under oxidative conditions. *Biochemical and biophysical research communications* 313(4): 850-5.
- Salman A, Ramesh J, Erukhimovitch V, Talyshinsky M, Mordechai S & Huleihel M. (2003) FTIR microspectroscopy of malignant fibroblasts transformed by mouse sarcoma virus. *J Biochem Biophys Methods* 55(2): 141-53.
- Santuccione A, Sytnyk V, Leshchyn'ska I & Schachner M. (2005) Prion protein recruits its neuronal receptor NCAM to lipid rafts to activate p59fyn and to enhance neurite outgrowth. *The Journal of cell biology* 169(2): 341-54.
- Saragovi HU, Rebai N, Di Guglielmo GM, Macleod R, Sheng J, Rubin DH & Greene MI. (1999) A G1 cell cycle arrest induced by ligands of the reovirus type 3 receptor is secondary to inactivation of p21ras and mitogen-activated protein kinase. *DNA Cell Biol* 18(10): 763-70.
- Sayre LM, Perry G, Atwood CS & Smith MA. (2000) The role of metals in neurodegenerative diseases. *Cellular and molecular biology (Noisy-le-Grand, France)* 46(4): 731-41.

8. References

- Schatzl HM, Laszlo L, Holtzman DM, Tatzelt J, DeArmond SJ, Weiner RI, Mobley WC & Prusiner SB. (1997) A hypothalamic neuronal cell line persistently infected with scrapie prions exhibits apoptosis. *J Virol* 71(11): 8821-31.
- Schmechel S, Chute M, Skinner P, Anderson R & Schiff L. (1997) Preferential translation of reovirus mRNA by a sigma3-dependent mechanism. *Virology* 232(1): 62-73.
- Scoltock AB, Bortner CD, St JBG, Putney JW, Jr. & Cidlowski JA. (2000) A selective requirement for elevated calcium in DNA degradation, but not early events in anti-Fas-induced apoptosis. *J Biol Chem* 275(39): 30586-96.
- Severcan F, Gorgulu G, Gorgulu ST & Guray T. (2005) Rapid monitoring of diabetes-induced lipid peroxidation by Fourier transform infrared spectroscopy: evidence from rat liver microsomal membranes. *Anal Biochem* 339(1): 36-40.
- Sharpe AH & Fields BN. (1982) Reovirus inhibition of cellular RNA and protein synthesis: role of the S4 gene. *Virology* 122(2): 381-91.
- Sigurdson CJ, Spraker TR, Miller MW, Oesch B & Hoover EA. (2001) PrP(CWD) in the myenteric plexus, vagosympathetic trunk and endocrine glands of deer with chronic wasting disease. *The Journal of general virology* 82(Pt 10): 2327-34.
- Sigurdsson B. (1954) Rida, a chronic encephalitis of sheep. With general remarks on infections which develop slowly and some of their special characteristics. *Brit. vet. J.* 110: 341-54.
- Sigurdsson EM, Brown DR, Alim MA, Scholtzova H, Carp R, Meeker HC, Prelli F, Frangione B & Wisniewski T. (2003) Copper chelation delays the onset of prion disease. *The Journal of biological chemistry* 278(47): 46199-202.
- Silveira JR, Caughey B & Baron GS. (2004) Prion protein and the molecular features of transmissible spongiform encephalopathy agents. *Curr Top Microbiol Immunol* 284: 1-50.
- Smith MA, Harris PL, Sayre LM & Perry G. (1997) Iron accumulation in Alzheimer disease is a source of redox-generated free radicals. *Proceedings of the National Academy of Sciences of the United States of America* 94(18): 9866-8.
- Somerville RA, Chong A, Mulqueen OU, Birkett CR, Wood SC & Hope J. (1997) Biochemical typing of scrapie strains. *Nature* 386(6625): 564.
- Spasov S. (2006) Investigation of Scrapie Associated Prion Protein PrP27-30 and Strain Differentiation of Transmissible Spongiform Encephalopathy by Fourier-Transform Infrared Spectroscopy Techniques Berlin.
- Spraker TR, Zink RR, Cummings BA, Wild MA, Miller MW & O'Rourke KI. (2002) Comparison of histological lesions and immunohistochemical staining of proteinase-resistant prion protein in a naturally occurring spongiform encephalopathy of free-ranging mule deer (*Odocoileus hemionus*) with those of chronic wasting disease of captive mule deer. *Vet Pathol* 39(1): 110-9.
- Stockel J, Safar J, Wallace AC, Cohen FE & Prusiner SB. (1998) Prion protein selectively binds copper(II) ions. *Biochemistry* 37(20): 7185-93.
- Strausak D, Mercer JF, Dieter HH, Stremmel W & Multhaup G. (2001) Copper in disorders with neurological symptoms: Alzheimer's, Menkes, and Wilson diseases. *Brain Res Bull* 55(2): 175-85.
- Sturzenbecker LJ, Nibert M, Furlong D & Fields BN. (1987) Intracellular digestion of reovirus particles requires a low pH and is an essential step in the viral infectious cycle. *Journal of virology* 61(8): 2351-61.
- Takahashi H, French SW & Wong PT. (1991) Alterations in hepatic lipids and proteins by chronic ethanol intake: a high-pressure Fourier transform infrared spectroscopic study on alcoholic liver disease in the rat. *Alcohol Clin Exp Res* 15(2): 219-23.
- Tamara. (1984) Cathepsin D.

8. References

- Tamm LK & Tatulian SA. (1997) Infrared spectroscopy of proteins and peptides in lipid bilayers. *Q Rev Biophys* 30(4): 365-429.
- Tamm LK & Tatulian SA. (1997) Infrared spectroscopy of proteins and peptides in lipid Taraboulos A, Raeber AJ, Borchelt DR, Serban D & Prusiner SB. (1992) Synthesis and trafficking of prion proteins in cultured cells. *Mol Biol Cell* 3(8): 851-63.
- Taraboulos A, Raeber AJ, Borchelt DR, Serban D & Prusiner SB. (1992) Synthesis and trafficking of prion proteins in cultured cells. *Mol Biol Cell* 3(8): 851-63.
- Taraboulos A, Scott M, Semenov A, Avrahami D & Prusiner SB. (1994) Biosynthesis of the prion proteins in scrapie-infected cells in culture. *Braz J Med Biol Res* 27(2): 303-7.
- Taraboulos A, Serban D & Prusiner SB. (1990) Scrapie prion proteins accumulate in the cytoplasm of persistently infected cultured cells. *J Cell Biol* 110(6): 2117-32.
- Thackray AM, Knight R, Haswell SJ, Bujdoso R & Brown DR. (2002) Metal imbalance and compromised antioxidant function are early changes in prion disease. *The Biochemical journal* 362(Pt 1): 253-8.
- Thackray AM, Knight R, Haswell SJ, Bujdoso R & Brown DR. (2002b) Metal imbalance and compromised antioxidant function are early changes in prion disease. *The Biochemical journal* 362(Pt 1): 253-8.
- Thadani V, Penar PL, Partington J, Kalb R, Janssen R, Schonberger LB, Rabkin CS & Prichard JW. (1988) Creutzfeldt-Jakob disease probably acquired from a cadaveric dura mater graft. Case report. *J Neurosurg* 69(5): 766-9.
- Thellung S, Florio T, Villa V, Corsaro A, Arena S, Amico C, Robello M, Salmona M, Forloni G, Bugiani O, Tagliavini F & Schettini G. (2000) Apoptotic cell death and impairment of L-type voltage-sensitive calcium channel activity in rat cerebellar granule cells treated with the prion protein fragment 106-126. *Neurobiol Dis* 7(4): 299-309.
- Thompson KJ, Shoham S & Connor JR. (2001) Iron and neurodegenerative disorders. *Brain Res Bull* 55(2): 155-64.
- Thomzig A, Spassov S, Friedrich M, Naumann D & Beekes M. (2004) Discriminating scrapie and bovine spongiform encephalopathy isolates by infrared spectroscopy of pathological prion protein. *J Biol Chem* 279(32): 33847-54.
- Tobler I, Gaus SE, Deboer T, Achermann P, Fischer M, Rulicke T, Moser M, Oesch B, McBride PA & Manson JC. (1996) Altered circadian activity rhythms and sleep in mice devoid of prion protein. *Nature* 380(6575): 639-42.
- Todorova-Balvay D, Simon S, Creminon C, Grassi J, Srikrishnan T & Vijayalakshmi MA. (2005) Copper binding to prion octarepeat peptides, a combined metal chelate affinity and immunochemical approaches. *Journal of chromatography* 818(1): 75-82.
- Toni M, Massimino ML, Griffoni C, Salvato B, Tomasi V & Spisni E. (2005) Extracellular copper ions regulate cellular prion protein (PrPC) expression and metabolism in neuronal cells. *FEBS letters* 579(3): 741-4.
- Toyran N, Lasch P, Naumann D, Turan B & Severcan F. (2006) Early alterations in myocardia and vessels of the diabetic rat heart: an FTIR microspectroscopic study. *Biochem J* 397(3): 427-36.
- Treiber C, Simons A & Multhaup G. (2006) Effect of copper and manganese on the de novo generation of protease-resistant prion protein in yeast cells. *Biochemistry* 45(21): 6674-80.
- Tyler KL, Barton ES, Ibach ML, Robinson C, Campbell JA, O'Donnell SM, Valyi-Nagy T, Clarke P, Wetzel JD & Dermody TS. (2004) Isolation and molecular characterization of a novel type 3 reovirus from a child with meningitis. *J Infect Dis* 189(9): 1664-75.

- Tyler KL, Clarke P, DeBiasi RL, Kominsky D & Poggioli GJ. (2001) Reoviruses and the host cell. *Trends Microbiol* 9(11): 560-4.
- Tyler KL, Squier MK, Brown AL, Pike B, Willis D, Oberhaus SM, Dermody TS & Cohen JJ. (1996) Linkage between reovirus-induced apoptosis and inhibition of cellular DNA synthesis: role of the S1 and M2 genes. *J Virol* 70(11): 7984-91.
- Tyler KL, Squier MK, Rodgers SE, Schneider BE, Oberhaus SM, Grdina TA, Cohen JJ & Dermody TS. (1995) Differences in the capacity of reovirus strains to induce apoptosis are determined by the viral attachment protein sigma 1. *J Virol* 69(11): 6972-9.
- Tyler KL, Virgin HWt, Bassel-Duby R & Fields BN. (1989) Antibody inhibits defined stages in the pathogenesis of reovirus serotype 3 infection of the central nervous system. *J Exp Med* 170(3): 887-900.
- Valentine JS, Hart PJ & Gralla EB. (1999) Copper-zinc superoxide dismutase and ALS. *Adv Exp Med Biol* 448: 193-203.
- Valyi-Nagy T & Dermody TS. (2005) Role of oxidative damage in the pathogenesis of viral infections of the nervous system. *Histol Histopathol* 20(3): 957-67.
- van Keulen LJ, Schreuder BE, Meloen RH, Poelen-van den Berg M, Mooij-Harkes G, Vromans ME & Langeveld JP. (1995) Immunohistochemical detection and localization of prion protein in brain tissue of sheep with natural scrapie. *Vet Pathol* 32(3): 299-308.
- Varela-Nallar L, Toledo EM, Larrondo LF, Cabral AL, Martins VR & Inestrosa NC. (2006) Induction of cellular prion protein gene expression by copper in neurons. *American journal of physiology* 290(1): C271-81.
- Vayssiere JL, Petit PX, Risler Y & Mignotte B. (1994) Commitment to apoptosis is associated with changes in mitochondrial biogenesis and activity in cell lines conditionally immortalized with simian virus 40. *Proc Natl Acad Sci U S A* 91(24): 11752-6.
- Vey M, Pilkuhn S, Wille H, Nixon R, DeArmond SJ, Smart EJ, Anderson RG, Taraboulos A & Prusiner SB. (1996) Subcellular colocalization of the cellular and scrapie prion proteins in caveolae-like membranous domains. *Proc Natl Acad Sci U S A* 93(25): 14945-9.
- Viles JH, Cohen FE, Prusiner SB, Goodin DB, Wright PE & Dyson HJ. (1999) Copper binding to the prion protein: structural implications of four identical cooperative binding sites. *Proc Natl Acad Sci U S A* 96(5): 2042-7.
- Villa V, Corsaro A, Thellung S, Paludi D, Chiovitti K, Venezia V, Nizzari M, Russo C, Schettini G, Aceto A & Florio T. (2006) Characterization of the Proapoptotic Intracellular Mechanisms Induced by a Toxic Conformer of the Recombinant Human Prion Protein Fragment 90-231. *Ann NY Acad Sci* 1090(1): 276-91.
- Virgin HWt & Tyler KL. (1991) Role of immune cells in protection against and control of reovirus infection in neonatal mice. *Journal of virology* 65(10): 5157-64.
- Vogt S, Maser J & Jacobson C. (2003) Data analysis for X-ray fluorescence imaging. *Proceedings of the Seventh International Conference on X-ray Microscopy. J Phys IV* 104: 617-22.
- Vogt S. (2003) MAPS: a set of software tools for analysis and visualization of 3D X-ray fluorescence data sets. *Proceedings of the Seventh International Conference on X-ray Microscopy. J Phys IV* 104: 635-8.
- Wang Q, Kretlow A, Beekes M, Naumann D & Miller L. (2005a) In situ characterization of prion protein structure and metal accumulation in scrapie-infected cells by synchrotron infrared and X-ray imaging. *Journal of Vibrational Spectroscopy* 38(1-2): 61-9.

8. References

- Wang Q, Sanad W, Miller LM, Voigt A, Klingel K, Kandolf R, Stangl K & Baumann G. (2005b) Infrared Imaging of Compositional Changes in Inflammatory Cardiomyopathy. *Vibrational Spectroscopy* 38: 217-22.
- Watt NT & Hooper NM. (2003) The prion protein and neuronal zinc homeostasis. *Trends Biochem Sci* 28(8): 406-10.
- Wells GA, Scott AC, Johnson CT, Gunning RF, Hancock RD, Jeffrey M, Dawson M & Bradley R. (1987) A novel progressive spongiform encephalopathy in cattle. *The Veterinary record* 121(18): 419-20.
- Wetzel DL & LeVine SM. (1999) Imaging molecular chemistry with infrared microscopy. *Science* 285: 1224-5.
- Wetzel JD, Barton ES, Chappell JD, Baer GS, Mochow-Grundy M, Rodgers SE, Shyr Y, Powers AC, Thomas JW & Dermody TS. (2006) Reovirus delays diabetes onset but does not prevent insulinitis in nonobese diabetic mice. *J Virol* 80(6): 3078-82.
- Whatley SA, Powell JF, Politopoulou G, Campbell IC, Brammer MJ & Percy NS. (1995) Regulation of intracellular free calcium levels by the cellular prion protein. *Neuroreport* 6(17): 2333-7.
- Whittington MA, Sidle KC, Gowland I, Meads J, Hill AF, Palmer MS, Jefferys JG & Collinge J. (1995) Rescue of neurophysiological phenotype seen in PrP null mice by transgene encoding human prion protein. *Nature genetics* 9(2): 197-201.
- Will RG & Matthews WB. (1982) Evidence for case-to-case transmission of Creutzfeldt-Jakob disease. *J Neurol Neurosurg Psychiatry* 45(3): 235-8.
- Will RG, Ironside JW, Zeidler M, Cousens SN, Estibeiro K, Alperovitch A, Poser S, Pocchiari M, Hofman A & Smith PG. (1996) A new variant of Creutzfeldt-Jakob disease in the UK. *Lancet* 347(9006): 921-5.
- Williams A, Lucassen PJ, Ritchie D & Bruce M. (1997) PrP deposition, microglial activation, and neuronal apoptosis in murine scrapie. *Exp Neurol* 144(2): 433-8.
- Williams ES & Miller MW. (2002) Chronic wasting disease in deer and elk in North America. *Revue scientifique et technique (International Office of Epizootics)* 21(2): 305-16.
- Williams ES & Young S. (1980) Chronic wasting disease of captive mule deer: a spongiform encephalopathy. *J Wildl Dis* 16(1): 89-98.
- Williams ES & Young S. (1992) Spongiform encephalopathies in Cervidae. *Revue scientifique et technique (International Office of Epizootics)* 11(2): 551-67.
- Wolter KG, Hsu YT, Smith CL, Nechushtan A, Xi XG & Youle RJ. (1997) Movement of Bax from the cytosol to mitochondria during apoptosis. *J Cell Biol* 139(5): 1281-92.
- Wong BS, Brown DR, Pan T, Whiteman M, Liu T, Bu X, Li R, Gambetti P, Olesik J, Rubenstein R & Sy MS. (2001a) Oxidative impairment in scrapie-infected mice is associated with brain metals perturbations and altered antioxidant activities. *Journal of neurochemistry* 79(3): 689-98.
- Wong BS, Chen SG, Colucci M, Xie Z, Pan T, Liu T, Li R, Gambetti P, Sy MS & Brown DR. (2001b) Aberrant metal binding by prion protein in human prion disease. *Journal of neurochemistry* 78(6): 1400-8.
- Wong K, Qiu Y, Hyun W, Nixon R, VanCleave J, Sanchez-Salazar J, Prusiner SB & DeArmond SJ. (1996) Decreased receptor-mediated calcium response in prion-infected cells correlates with decreased membrane fluidity and IP₃ release. *Neurology* 47(3): 741-50.

- Wood JL, McGill IS, Done SH & Bradley R. (1997) Neuropathology of scrapie: a study of the distribution patterns of brain lesions in 222 cases of natural scrapie in sheep, 1982-1991. *Vet Rec* 140(7): 167-74.
- Wyatt JM, Pearson GR, Smerdon TN, Gruffydd-Jones TJ, Wells GA & Wilesmith JW. (1991) Naturally occurring scrapie-like spongiform encephalopathy in five domestic cats. *The Veterinary record* 129(11): 233-6.
- Yang D, Castro DJ, el-Sayed IH, el-Sayed MA, Saxton RE & Zhang NY. (1995) A Fourier-transform infrared spectroscopic comparison of cultured human fibroblast and fibrosarcoma cells: a new method for detection of malignancies. *J Clin Laser Med Surg* 13(2): 55-9.
- Yang L, McRae R, Henary MM, Patel R, Lai B, Vogt S & Fahrni CJ. (2005) Imaging of the intracellular topography of copper with a fluorescent sensor and by synchrotron x-ray fluorescence microscopy. *Proc Natl Acad Sci U S A* 102(32): 11179-84.
- Ye X, Meeker HC, Kozlowski P & Carp RI. (2002) Increased c-Fos protein in the brains of scrapie-infected SAMP8, SAMR1, AKR and C57BL mice. *Neuropathol Appl Neurobiol* 28(5): 358-66.
- Ying YS, Anderson RG & Rothberg KG. (1992) Each caveola contains multiple glycosyl-phosphatidylinositol-anchored membrane proteins. *Cold Spring Harb Symp Quant Biol* 57: 593-604.
- Yoshino N, Takizawa M, Akiba H, Okumura H, Tashiro F, Honda M & Ueno Y. (1996) Transient elevation of intracellular calcium ion levels as an early event in T-2 toxin-induced apoptosis in human promyelotic cell line HL-60. *Nat Toxins* 4(5): 234-41.
- Yu C & Irudayaraj J. (2005) Spectroscopic characterization of microorganisms by Fourier transform infrared microspectroscopy. *Biopolymers* 77(6): 368-77.
- Zahn R, Liu A, Luhrs T, Riek R, von Schroetter C, Lopez Garcia F, Billeter M, Calzolari L, Wider G & Wuthrich K. (2000) NMR solution structure of the human prion protein. *Proceedings of the National Academy of Sciences of the United States of America* 97(1): 145-50.
- Zalewski PD, Forbes IJ, Seamark RF, Borlinghaus R, Betts WH, Lincoln SF & Ward AD. (1994) Flux of intracellular labile zinc during apoptosis (gene-directed cell death) revealed by a specific chemical probe, Zinquin. *Chem Biol* 1(3): 153-61.
- Zamzami N, Marchetti P, Castedo M, Decaudin D, Macho A, Hirsch T, Susin SA, Petit PX, Mignotte B & Kroemer G. (1995a) Sequential reduction of mitochondrial transmembrane potential and generation of reactive oxygen species in early programmed cell death. *J Exp Med* 182(2): 367-77.
- Zamzami N, Marchetti P, Castedo M, Zanin C, Vayssiere JL, Petit PX & Kroemer G. (1995b) Reduction in mitochondrial potential constitutes an early irreversible step of programmed lymphocyte death in vivo. *J Exp Med* 181(5): 1661-72.
- Zanusso G, Nardelli E, Rosati A, Fabrizi G, Ferrari S, Carteri A, De Simone F, Rizzuto N & Monaco S. (1998) Simultaneous occurrence of spongiform encephalopathy in a man and his cat in Italy. *Lancet* 352(9134): 1116-7.
- Zeidler M, Stewart GE, Barraclough CR, Bateman DE, Bates D, Burn DJ, Colchester AC, Durward W, Fletcher NA, Hawkins SA, Mackenzie JM & Will RG. (1997) New variant Creutzfeldt-Jakob disease: neurological features and diagnostic tests. *Lancet* 350(9082): 903-7.
- Zha J, Harada H, Yang E, Jockel J & Korsmeyer SJ. (1996) Serine phosphorylation of death agonist BAD in response to survival factor results in binding to 14-3-3 not BCL-X(L). *Cell* 87(4): 619-28.

8. References

- Zhang L, Small GW, Haka AS, Kidder LH & Lewis EN. (2003) Classification of Fourier transform infrared microscopic imaging data of human breast cells by cluster analysis and artificial neural networks. *Appl Spectrosc* 57(1): 14-22.
- Zhang Y, Spiess E, Groschup MH & Burkle A. (2003) Up-regulation of cathepsin B and cathepsin L activities in scrapie-infected mouse Neuro2a cells. *J Gen Virol* 84(Pt 8): 2279-83.
- Zlotnik I & Rennie JC. (1965) Experimental Transmission Of Mouse Passaged Scrapie To Goats, Sheep, Rats And Hamsters. *J Comp Pathol* 75: 147-57.
- Zweerink HJ & Joklik WK. (1970) Studies on the intracellular synthesis of reovirus-specified proteins. *Virology* 41(3): 501-18.