

Research Publications

1. L. Crawford, **K. Leppard**, D. Lane and E. Harlow (1982). Cellular proteins reactive with monoclonal antibodies directed against Simian Virus 40 T-antigen. *J.Virol.* 42: 612-620.
2. L. Crawford, **K. Leppard**, D. Lane and E. Harlow (1982). Cross-reactions between cellular proteins and SV40 T-antigen *in* 'Tumor Viruses and Differentiation', E. M. Scolnick and A. J. Levine, eds., A.R.Liss Inc, New York.
3. **K. Leppard** and L. Crawford (1983). Monoclonal antibodies displaying a novel species specificity for the primate transformation-related protein p53. *EMBO Journal* 2: 1457-1464.
4. **K. Leppard**, N. Totty, M. Waterfield, E. Harlow, J. Jenkins and L. Crawford (1983). Purification and partial amino acid sequence analysis of the cellular tumour antigen, p53, from mouse SV40-transformed cells. *EMBO Journal* 2: 1993-1999.
5. **K. N. Leppard** and L. V. Crawford (1984). An oligomeric form of Simian Virus 40 T-antigen is immunologically related to the cellular tumor antigen, p53. *J.Virol.* 50: 457-464.
6. S. Benchimol, J. R. Jenkins, L. V. Crawford, **K. Leppard**, P. Lamb, N. M. Williamson, D. C. Pim and E. Harlow (1984). Molecular analysis of the gene for the p53 cellular tumor antigen. *Cancer Cells* 2: 383-391.
7. S. Pilder, **K. Leppard**, J. Logan and T. Shenk (1986). Functional analysis of the adenovirus E1b-55K polypeptide. *Cancer Cells* 4: 285-290.
8. **K. Leppard**, S. Pilder, M. Moore, J. Logan and T. Shenk (1987). An adenovirus oncogene post-transcriptionally modulates mRNA accumulation *in* 'Viral Carcinogenesis', Alfred Benzon Symposium 24, N. O. Kjeldgaard and J. Forchhammer eds., Munksgaard, Copenhagen.
9. **K. N. Leppard** and T. Shenk (1989). The adenovirus E1B 55kd protein influences mRNA metabolism via an intranuclear effect on RNA metabolism. *EMBO Journal* 8: 2329-2336.
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11. **K. N. Leppard** (1993). Selective effects on adenovirus late gene expression of deleting the E1b 55K protein. *J. Gen. Virol.* 74: 575-582.
12. I. Dix and **K. N. Leppard** (1993). Regulated splicing of adenovirus type 5 E4 transcripts and regulated cytoplasmic accumulation of E4 mRNA. *J. Virol.* 67: 3226-3231.
13. C. Caravokyri, C. R. Pringle and **K. N. Leppard** (1993). Human adenovirus type 5 recombinants expressing simian immunodeficiency virus macaque strain gag antigens. *J. Gen. Virol.* 74: 2819-2824.
14. I. Dix and **K. N. Leppard** (1995). Expression of adenovirus type 5 E4 Orf2 protein during lytic infection. *J. Gen. Virol.* 76: 1051-1055.
15. M. J. Imperiale, G. Akusjarvi and **K. N. Leppard** (1995). Post-transcriptional control of adenovirus gene expression. *Curr. Topics Microbiol. Immunol.* 199(II), Chapter 6, pp139-171. (Invited review).
16. C. Caravokyri and **K. N. Leppard** (1995). Constitutive episomal expression of polypeptide IX in a 293 - based cell line complements the deficiency of pIX-mutant adenovirus type 5. *J. Virol.* 69: 6627-6633.
17. **K. N. Leppard** and C. R. Pringle (1996). Virus mutants *in* 'Virology Methods Manual', B. W. J. Mahy and H. O. Kangro eds., Academic Press, pp232-249. (Invited contribution).

18. C. Caravokyri and **K. N. Leppard** (1996). Human adenovirus type 5 variants with sequence alterations flanking the E2A gene: effects on E2 expression and DNA replication. *Virus Genes* 12: 65-75.
19. R. D. Williams and **K. N. Leppard** (1996). Human immunodeficiency virus type 1 Rev - dependent effects on the late gene expression of a recombinant human adenovirus. *Virus Genes* 13: 111-120.
20. B. Flanagan, C. R. Pringle and **K. N. Leppard**. (1997). A recombinant human adenovirus expressing the simian immunodeficiency virus Gag antigen can induce long-lived immune responses in mice. *J. Gen. Virol.* 78, 991-997.
21. B. Flanagan, C. R. Pringle and **K. N. Leppard**. (1997). Live recombinant adenovirus expressing SIV gag protein as an immunogen in mice. *In Vaccines 97*, CSH Laboratory Press, pp321-325.
22. **K. N. Leppard**. (1997). E4 gene function in adenovirus and adeno-associated virus infections. *J. Gen. Virol.* 78, 2131-2138. (Invited, peer-reviewed review).
23. **K. N. Leppard**. (1998). Regulated RNA processing and RNA transport during adenovirus infection. *Seminars Virol.* 8, 301-307. (Invited review).
24. J. Horridge and **K. N. Leppard**. (1998). RNA-binding activity of the E1B 55-kilodalton protein from human adenovirus type 5. *Journal of Virology* 72, 9374-9379.
25. E. Harfst and **K. N. Leppard**. (1999). A comparative analysis of the phosphorylation and biochemical properties of wild type and host range variant DNA binding proteins of human adenovirus 5. *Virus Genes* 18, 97-106.
26. **K. N. Leppard** and R. D. Everett. (1999). The Adenovirus Type 5 E1b 55K and E4 Orf3 Proteins Associate in Infected Cells and Affect ND10 Components. *J. Gen. Virol.* 80, 997-1008.
27. **K. N. Leppard**. (1999). Mutagenesis of DNA virus genomes, *in 'DNA viruses: A practical approach'*, A. J. Cann (ed.), Oxford University Press, pp47-81. (Invited contribution)
28. K. J. Lethbridge, G. E. Scott and **K. N. Leppard** (2003) Nuclear matrix localisation and SUMO-1 modification of adenovirus type 5 E1b 55K protein are controlled by E4 Orf6 protein. *J Gen Virol* 84, 259-268 [online Nov 2002].
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30. J. Vellinga, M. J. W. E. Rabelink, S. J. Cramer, D. J. M. van den Wollenberg, H. van der Meulen, **K. N. Leppard**, F. J. Falloux and R. C. Hoeben (2004). Insertion of spacers improves the accessibility of peptide ligands linked to the carboxy terminus of the adenovirus minor capsid protein IX. *J Virol.* 78, 3470-3479.
31. E. Guccione, K. J. Lethbridge, N. Killick, **K. N. Leppard** and L. Banks (2004). HPV E6 proteins interact with specific PML isoforms and allow distinctions to be made between different POD structure. *Oncogene*, 23, 4662-4672.
32. S. J. Beech, K. J. Lethbridge, N. Killick, N. McGlincy, and **K. N. Leppard** (2005). Isoforms of the promyelocytic leukemia protein differ in their effects on ND10 organization. *Experimental Cell Research*, 307, 109-117.
33. **K. N. Leppard** and J. Dimmock (2006). Virus interactions with PML nuclear bodies. Chapter 8, pp213-246 *in* *Viruses and the Nucleus*, J. A. Hiscox (ed.). J. Wiley.

34. A. Hoppe, S. J. Beech, J. Dimmock and **K. N. Leppard** (2006). Interaction of the adenovirus type 5 E4 Orf3 protein with promyelocytic leukaemia protein isoform II is required for PML body disruption. *J. Virol.*, 80, 3042-3049.
35. **K. N. Leppard** (2008). Book review: Adenovirus methods and protocols vols 1 & 2; W. S. M. Wold & A. E. Tollefson, Humana Press, 2007. *In* Microbiology Today Reviews on the Web. http://www.sgm.ac.uk/pubs/micro_today/book_reviews/MTFEB08/MTF08_09.cfm
36. **K. N. Leppard** (2008). Adenoviridae: Molecular Biology, pp17-23 *in* Encyclopedia of Virology, 5 vols. (B.W.J. Mahy and M.H.V. Van Regenmortel, Editors). Oxford: Elsevier.
37. **K. N. Leppard**, E. Emmott, M. S. Cortese and T. Rich (2009) Adenovirus type 5 E4 Orf3 protein targets promyelocytic leukaemia (PML) protein nuclear domains for disruption via a sequence in PML isoform II that is predicted as a protein interaction site by bioinformatic analysis. *J. Gen. Virol.* 90, 95-104.
38. S. J. Morris and **K. N. Leppard**. (2009) Adenovirus serotype 5 L4-22K and L4-33K proteins have distinct functions in regulating late gene expression. *J. Virol.* 83, 3049-3058. Published ahead of print, 28 January 2009, doi:10.1128/JVI.02455-08
39. S. J. Morris, G. E. Scott and **K. N. Leppard**. (2010) Adenovirus late phase infection is controlled by a novel L4 promoter. *J. Virol.* 84: 7096-7104. Published ahead of print on 5 May 2010, doi:10.1128/JVI.00107-10.
40. S. J. Morris, D. C. Farley and **K. N. Leppard**. (2010) Generation of cell lines to complement adenovirus vectors using recombination-mediated cassette exchange. *BMC Biotechnology* 10: 92. (<http://www.biomedcentral.com/1472-6750/10/92>)
41. D. Seto, J. Chodosh, J. R. Brister, M. S. Jones and Members of the Adenovirus Research Community [signatories include **K. N. Leppard**] (2011) Using the whole-genome sequence to characterize and name human adenoviruses. *J Virol* 85: 5701-2.
42. **K. N. Leppard** and J. Wright (2012) Targeting of PML proteins and PML nuclear bodies by DNA tumour viruses. Chapter 13 in: Gaston K, ed. The small DNA tumour viruses: Caistor Academic Press. pp.257-282.
43. J. Wright and **K. N. Leppard** (2013) The human adenovirus type 5 L4 promoter is activated by cellular stress response protein p53. *J. Virol.* 87: 11617-11625. Published ahead of print, 21 August 2013, doi:10.1128/JVI.01924-13
44. **K. N. Leppard** (2014) Adenoviruses: Molecular Biology, section 2525 in Reference Module in Biomedical Sciences, Elsevier. 9pp. doi: 10.1016/B978-0-12-801238-3.02525-3
45. Y. Chen, J. Wright, X. Meng and **K. N. Leppard**. (2015) Promyelocytic leukemia protein isoform II promotes transcription factor recruitment to activate interferon β and interferon-responsive gene expression. *Mol. Cell. Biol.* 35: 1660-1672. Published on-line ahead of print 2 Mar 2015, doi:10.1128/MCB.01478-14.
46. J. Wright, Z. Atwan, S. J. Morris and **K. N. Leppard**. (2015) The human adenovirus type 5 L4 promoter is negatively regulated by TFII-I and by L4-33K. *J. Virol.* 89: 7053-7063. Published on-line ahead of print 29 Apr 2015.
47. H. E. Maunder, G. Taylor, **K. N. Leppard** and A. J. Easton. (2015). Intranasal immunisation with recombinant adenovirus vaccines protects against a lethal challenge with pneumonia virus of mice. *Vaccine* 33: 6641-9. Published on-line ahead of print 5 Nov 2015, doi: 10.1016/j.vaccine.2015.10.105.
48. R. G. Bridges, S.-Y. Sohn, J. Wright, **K. N. Leppard** and P. Hearing. (2016). The adenovirus E4-ORF3 protein stimulates SUMOylation of general transcription factor TFII-I to direct proteasomal degradation. *mBio* 7(1):e02184-15. doi:10.1128/mBio.02184-15.

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49. M. Windheim, S. Höning, **K. N. Leppard**, L. Butler, C. Seed, S. Ponnambalam and H.-G. Burgert. (2016) Sorting motifs in the cytoplasmic tail of the immunomodulatory E3/49K protein of species D adenoviruses modulate cell surface expression and ectodomain shedding. *J. Biol. Chem.* *J. Biol. Chem.* 291: 6796-6812. Published on-line 3 Feb 2016: doi:10.1074/jbc.M115.684787
50. Z. Atwan, J. Wright, A. Woodman and **K. N. Leppard**. (2016) Promyelocytic leukemia protein isoform II inhibits infection by human adenovirus type 5 through effects on HSP70 and the interferon response. *J. Gen. Virol.* 97: 1955-1967. Published on-line 23 May 2016: doi: 10.1099/jgv.0.000510

Other Scientific Publications

- Dimmock, N. J., Easton A. J. and Leppard, K. N. *Introduction to Modern Virology* 5th edition 2001, Blackwell, Oxford.
- Dimmock, N. J., Easton A. J. and Leppard, K. N. *Introduction to Modern Virology* 6th edition 2007, Blackwell, Oxford.
- Dimmock, N. J., Easton A. J. and Leppard, K. N. *Introduction to Modern Virology* 7th edition 2016, Wiley-Blackwell, Southampton.

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