

Selected publications of Walter Keller (1995 to present):

San Paolo, S., S. Vanacova, L. Schenk, T. Scherrer, D. Blank, W. Keller, and A.P. Gerber: Distinct roles of non-canonical poly(A) polymerases in RNA metabolism. *PLoS Genetics* 5, e1000555 (2009).

Coseno, M.E., G. Martin, C. Berger, G. Gilmartin, W. Keller, and S. Doublie: Crystal structure of the 25 kDa subunit of human cleavage factor Im. *Nucleic Acids Res.* 36, 3474-3483 (2008).

Garas, M., B. Dichtl, and W. Keller: The role of the putative 3' end processing endonuclease Ysh1p in mRNA and snoRNA synthesis. *RNA* 14, 2671- 2684 (2008).

Martin, G., S. Doublie, and W. Keller: Determinants of substrate specificity in RNA-dependent nucleotidyl transferases. *Biochem. Biophys. Acta* 1779, 206-216 (2008).

Danckwardt, S., I. Kaufmann, M. Gentzel, K.U. Foerstner, A.-S. Gantzert, N.H. Gehring, G. Neu-Yilik, P. Bork, W. Keller, M. Wilm, M.W. Hentze, and A.E. Kulozik: Splicing factors stimulate polyadenylation via USEs at non-canonical 3' end formation signals. *EMBO J.* 26, 2658-2669 (2007).

Millevoi, S., C. Loulergue, S. Dettwiler, S.Z. Karaa, W. Keller, M. Antoniou, and S. Vagner: An interaction between U2AF65 and CF Im links the splicing and 3' end processing machineries. *EMBO J.* 25, 4854-4864 (2006).

Kyburz, A., A. Friedlein, H. Langen, and W. Keller: Direct interactions between subunits of CPSF and the U2 snRNP contribute to the coupling of pre-mRNA 3' end processing and splicing. *Mol. Cell* 23, 195-205 (2006).

Collart, C., J.E. Remacle, S. Barabino, L.A. van Grunsven, L. Nelles, A. Schellens, T. Van de Putte, S. Pype, D. Huylebroeck, and K. Verschueren: Smcl is a novel Smad interacting protein and cleavage and polyadenylation specificity factor associated protein. *Genes to Cells* 10, 897–906 (2005).

Ingham, R.J., K. Colwill, C. Howard, S. Dettwiler, C.S.H. Lim, J. Yu, K. Hersi, G. Gish, G. Mbamalu, L. Taylor, B. Yeung, G. Vassilovski, M. Amin, F. Chen, L. Matskova, G. Winberg, I. Ernberg, R. Linding, P. O'Donnell, A. Starostine, W. Keller, P. Metalnikov, C. Stark, and T. Pawson: WW domains provide a platform for the assembly of multi-protein networks. *Mol. Cell. Biol.* 25, 7092-7106 (2005).

Vanacova, S., J. Wolf, G. Martin, D. Blank, S. Dettwiler, A. Friedlein, H. Langen, G. Keith, and W. Keller: A new yeast poly(A) polymerase involved in RNA quality control. *PloS Biology* 3, 987-997 (2005) [e189].

Morlando, M., M. Ballarino, P. Greco, E. Caffarelli, B. Dichtl, and I. Bozzoni: Coupling between snoRNP assembly and 3' processing controls box C/D snoRNA biosynthesis in yeast. *EMBO J.* 23, 2392-2401 (2004).

Dettwiler, S., C. Aringhieri, S. Cardinale, W. Keller, and S.M.L. Barabino: Distinct sequence motifs within the 68-kDa subunit of cleavage factor I mediate RNA binding, protein-protein interactions and subcellular localization. *J. Biol. Chem.* 279, 35788-35797 (2004).

Martin G., A. Möglich, W. Keller, and S. Doublié: Biochemical and structural insights into substrate binding and catalytic mechanism of mammalian poly(A) polymerase. *J. Mol. Biol.* 341, 911-925 (2004).

Betat H., C. Rammelt, G. Martin, and M. Mörl: Exchange of regions between bacterial poly(A) polymerase and the CCA-adding enzyme generates altered specificities. *Mol. Cell* 15, 389-398 (2004).

Dichtl, B., R. Aasland, and W. Keller: Functions for *S. cerevisiae* Swd2p in 3' end formation of specific mRNAs and snoRNAs and global histone 3 lysine 4 methylation. *RNA* 10, 965-977 (2004).

Martin, G. and W. Keller: Sequence motifs that distinguish ATP(CTP):tRNA nucleotidyl transferases from eubacterial poly(A) polymerases. *RNA* 10, 899-906 (2004).

Kaufmann, I., G. Martin, A. Friedlein, H. Langen, and W. Keller: Human Fip1 is a subunit of CPSF that binds to U-rich RNA elements and stimulates poly(A) polymerase. *EMBO J.* 23, 616-626 (2004).

Kyburz, A., M. Sadowski, B. Dichtl, and W. Keller: The role of the yeast cleavage and polyadenylation factor subunit Ydh1p/Cft2p in pre-mRNA 3'-end formation. *Nucleic Acids Res.* 31, 3936-3945 (2003).

Sadowski, M., B. Dichtl, W. Hübner, and W. Keller: Independent functions of yeast Pcf11p in pre-mRNA 3'-end processing and in transcription termination. *EMBO J.* 22, 2167-2177 (2003).

Morlando, M., P. Greco, B. Dichtl, A. Fatica, W. Keller, and I. Bozzoni: Functional analysis of yeast snRNA 3'-end formation mediated by uncoupling of cleavage and polyadenylation. *Mol. Cell. Biol.* 22, 1379-1389 (2002).

Dichtl, B., D. Blank, M. Sadowski, W. Hübner, S. Weiser, and W. Keller: Yhh1p/Cft1p directly links poly(A) site recognition and RNA polymerase II transcription termination. *EMBO J.* 21, 4125-4135 (2002).

Wolf, J., A.P. Gerber, and W. Keller: tadA, an essential tRNA-specific adenosine deaminase from *Escherichia coli*. *EMBO J.* 21, 3841-3851 (2002).

Dichtl, B., D. Blank, M. Ohnacker, A. Friedlein, D. Roeder, H. Langen, and W. Keller: A role for SSU72 in balancing RNA polymerase II transcription elongation and termination. *Mol. Cell* 10, 1139-1150 (2002).

Keller, W. and G. Martin: Gene expression: reviving the message. *Nature* 419, 267-268 (2002).

Schaub, M. and W. Keller: RNA editing by adenosine deaminases generates RNA and protein diversity. *Biochimie* 84, 791-803 (2002).

Dichtl, B. and W. Keller: Recognition of polyadenylation sites in yeast pre-mRNAs by cleavage and polyadenylation factor. *EMBO J.* 20, 3197-3209 (2001).

Gerber, A.P. and W. Keller: RNA editing by base deamination: more enzymes, more targets, new mysteries. *Trends Biochem. Sci.* 26, 376-384 (2001).

De Vries, H., U. Rüegsegger, W. Hübner, A. Friedlein, H. Langen, and W. Keller: Human cleavage factor IIm contains homologues of yeast proteins and bridges two other cleavage factors. *EMBO J.* 19, 5895-5904 (2000).

Martin, G., W. Keller, and S. Doublie: Crystal structure of mammalian poly(A) polymerase in complex with an analog of ATP. *EMBO J.* 19, 4193-4203 (2000).

Barabino, S.M.L., M. Ohnacker, and W. Keller: Distinct roles of two Yth1p domains in 3'-end cleavage and polyadenylation of yeast pre-mRNAs. *EMBO J.* 19, 3778-3787 (2000).

Vagner, S., U. Rüegsegger, S.I. Gunderson, W. Keller, and I.W. Mattaj: Position-dependent inhibition of the cleavage step of pre-mRNA 3'-end processing by U1 snRNP. *RNA* 6, 178-188 (2000).

Vagner, S., U. Rüegsegger, S.I. Gunderson, W. Keller, and I.W. Mattaj: Position-dependent inhibition of the cleavage step of pre-mRNA 3'-end processing by U1 snRNP. *RNA* 6, 178-188 (2000).

Barabino, S.M.L. and W. Keller: Last but not least: Regulated poly(A) tail formation. *Cell* 99, 9-11 (1999).

Keller, W., J. Wolf, and A. Gerber: Editing of messenger RNA precursors and of tRNAs by adenosine to inosine conversion. *FEBS Letters* 452, 71-76 (1999).

Minvielle-Sebastia, L. and W. Keller: mRNA polyadenylation and its coupling to other RNA processing reactions and to transcription. *Curr. Op. Cell Biol.* 11, 352-357 (1999).

Martin, G., P. Jenö, and W. Keller: Mapping of ATP binding regions in poly(A) polymerases by photoaffinity labeling and by mutational analysis identifies a domain conserved in many nucleotidyltransferases. *Protein Science* 8, 2380-2391 (1999).

Gerber, A.P. and W. Keller: An adenosine deaminase that generates inosine at the wobble position of tRNAs. *Science* 286, 1146-1149 (1999).

Minvielle-Sebastia, L., K. Beyer, A.M. Krecic, R.E. Hector, M.S. Swanson, and W. Keller: Control of cleavage site selection during mRNA 3'-end formation by a yeast hnRNP. *EMBO J.* 17, 7454-7468 (1998).

Gerber, A., H. Grosjean, T. Melcher, and W. Keller: Tad1p, a yeast tRNA-specific adenosine deaminase, is related to the mammalian pre-mRNA editing enzymes ADAR1 and ADAR2. *EMBO J.* 17, 4780-4789 (1998).

Nemeroff, M.E., S.M.L. Barabino, Y. Li, W. Keller, and R.M. Krug: Influenza virus NS1 protein interacts with the cellular 30 KD subunit of CPSF and inhibits 3' end formation of cellular pre-mRNAs. *Molecular Cell* 1, 991-1000 (1998).

Birse, C.E., L. Minvielle-Sebastia, B.A. Lee, W. Keller, and N.J. Proudfoot: Coupling termination of transcription to messenger RNA maturation in yeast. *Science* 280, 298-301 (1998).

Martin, G. and W. Keller: Tailing and 3'-end labeling of RNA with yeast poly(A) polymerase and various nucleotides. *RNA* 4, 226-230 (1998).

Rüegsegger, U., D. Blank, and W. Keller: Human pre-mRNA cleavage factor Im is related to spliceosomal SR proteins and can be reconstituted in vitro from recombinant subunits. *Molecular Cell* 1, 243-253 (1998).

Preker, P.J. and W. Keller: The HAT helix, a repetitive motif implicated in RNA processing. *Trends Biochem. Sci.* 23, 15-16 (1998).

Beyer, K., T. Dandekar, and W. Keller: RNA-ligands selected by cleavage stimulation factor contain distinct sequence motifs that function as downstream elements in 3'-end processing of pre-mRNA. *J. Biol. Chem.* 272, 26769-26779 (1997).

Preker, P.J., M. Ohnacker, L. Minvielle-Sebastia, and W. Keller: A multisubunit 3'-end processing factor from yeast containing poly(A) polymerase and homologues of the subunits of mammalian cleavage and polyadenylation specificity factor. *EMBO J.* 16, 4727-4737 (1997).

Minvielle-Sebastia, L., P.J. Preker, T. Wiederkehr, Y. Strahm, and W. Keller: The major yeast poly(A)-binding protein is associated with cleavage factor IA

and functions in pre-messenger RNA 3'-end formation. Proc. Nat. Acad. Sci. USA. 94, 7897-7902 (1997).

Barabino, S.M.L., W. Hübner, A. Jenny, L. Minvielle-Sebastia, and W. Keller: The 30 kDa subunit of mammalian cleavage and polyadenylation specificity factor and its yeast homolog are RNA binding zinc finger proteins. Genes Dev. 11, 1703-1716 (1997).

Gerber, A., M.A. O'Connell, and W. Keller: Two forms of human double-stranded RNA-specific editase 1 (hRED1) generated by the insertion of an Alu cassette. RNA 3, 453-463 (1997).

Keller, W. and L. Minvielle-Sebastia: A comparison of mammalian and yeast pre-mRNA 3'-end processing. Curr. Op. Cell Biol. 9, 329-336 (1997).

O'Connell, M.A., A. Gerber, and W. Keller: Purification of human double-stranded RNA-specific editase 1 (hRED1), involved in editing of brain glutamate receptor B pre-mRNA. J. Biol. Chem. 272, 473-478 (1997).

Wahle, E. and W. Keller: Capping, methylation, and 3'-end formation of messenger RNA precursors. In: "Eukaryotic mRNA processing" Frontiers in Molecular Biology, B.D. Hames and D.M. Glover eds. Oxford University Press; pp. 280-309 (1997).

Jenny, A., L. Minvielle-Sebastia, P.J. Preker, and W. Keller: Sequence similarity between the 73-kDa protein of mammalian CPSF and a subunit of yeast polyadenylation factor I. Science 254, 1514-1517 (1996).

Ohnacker, M., L. Minvielle-Sebastia, and W. Keller: The *Schizosaccharomyces pombe* pla1 gene encodes a poly(A) polymerase and can functionally replace its *Saccharomyces cerevisiae* homologue. Nucleic Acids Res. 24, 2585-2591 (1996).

Martin, G. and W. Keller: Mutational analysis of mammalian poly(A) polymerase identifies a region for primer binding and a catalytic domain, homologous to the family X polymerases, and to other nucleotidyltransferases. EMBO J. 15, 2593-2603 (1996).

Rüegsegger, U., K. Beyer, and W. Keller: Purification and characterization of human cleavage factor Im involved in the 3'end processing of messenger RNA precursors. J. Biol. Chem. 271, 6107-6113 (1996).

Maas, S., T. Melcher, A. Herb, P.H. Seeburg, W. Keller, S. Krause, M. Higuchi, and M.A. O'Connell: Structural requirements for RNA editing in glutamate receptor pre-mRNAs by recombinant double-stranded RNA adenosine deaminase. J. Biol. Chem. 271, 12221-12226 (1996).

Wahle, E. and W. Keller: The biochemistry of polyadenylation. Trends Biochem. Sci. 21, 247-250 (1996).

Jenny, A., and W. Keller: Cloning of cDNAs encoding the 160 kDa subunit of the bovine cleavage and polyadenylation specificity factor. Nucleic Acids Res. 14, 2629-2635 (1995).

Keller, W.: No end yet to messenger RNA 3' processing! Cell 81, 829-832 (1995).

Keller, W.: 3'-end cleavage and polyadenylation of nuclear messenger RNA precursors. In: "Pre-mRNA processing", A.I. Lamond ed. Springer-Verlag/R.G. Landes Bioscience Publishers. pp.113-134 (1995).

Preker, P.J., J.Lingner, L. Minvielle-Sebastia, and W. Keller: The FIP1 gene encodes a component of a yeast pre-mRNA polyadenylation factor that directly interacts with poly(A) polymerase. Cell 81, 379-389 (1995).

Melcher, T., S. Maas, M. Higuchi, W. Keller, and P.H. Seeburg: Editing of AMPA receptor GluR-B pre-mRNA in vitro reveals site-selective adenosine to inosine conversion. J. Biol. Chem. 270, 8566-8570 (1995).

O'Connell, M.A., S. Krause, M. Higuchi, J.J. Hsuan, N.F. Totty, A. Jenny, and W. Keller: Cloning of cDNAs encoding mammalian double-stranded RNA-specific adenosine deaminase. Mol. Cell. Biol. 15, 1389-1397 (1995).