

Bibliography

Abdelmohsen K, Pullmann R Jr, Lal A, Kim HH, Galban S, Yang X, Blethrow JD, Walker M, Shubert J, Gillespie DA, Furneaux H, Gorospe M (2007) Phosphorylation of HuR by Chk2 Regulates SIRT1 Expression. *Mol. Cell* 25: 543-57.

Abdelmohsen K, Gorospe M (2012) RNA-binding protein nucleolin in disease. *RNA Biol.* 9(6):799-808. doi: 10.4161/rna.19718.

Abe E, Tanaka H, Ishimi Y, Miyaura C, Hayashi T, Nagasawa H, Tomida M, Yamaguchi Y, Hozumi M, Suda T (1986) Differentiation-inducing factor purified from conditioned medium of mitogen-treated spleen cell cultures stimulates bone resorption. *Proc Natl Acad Sci USA* 83: 5958-62.

Agca C, Boldt K, Gubler A, Meneau I, Corpet A, Samardzija M, Stucki M, Ueffing M, Grimm C. (2015) Expression of leukemia inhibitory factor in Müller glia cells is regulated by a redox-dependent mRNA stability mechanism *BMC Biol.* 13:30.

Aitken CE, Lorsch JR. (2012) A mechanistic overview of translation initiation in eukaryotes. *Nat Struct Mol Biol* 19:568-576.

Alberts B, Johnson A, Lewis J, Raff M, Roberts K, Walter P (2007). *Molecular Biology of the Cell* (Fifth ed.). Garland Science. pp. 1268 pages. ISBN 0-8153-4105-9.

Ambros V (2004) The functions of animal microRNAs. *Nature.* 431: 350-355.

Anderson P (2010) Post-transcriptional regulons coordinate the initiation and resolution of inflammation. *Nat Rev Immunol* 10:24-35.

Anegon I, Grolleau D, Soulillou JP (1991) Regulation of HILDA/LIF gene expression in activated human monocytic cells. *J Immunol.* 147(11):3973-80.

Arici A, Engin O, Attar E, Olive DL (1995) Modulation of leukemia inhibitory factor gene expression and protein biosynthesis in human endometrium. *J Clin Endocrinol Metab* 80: 1908–1915.

Arroyo JD, Chevillet JR, Kroh EM, Ruf IK, Pritchard CC, Gibson DF, Mitchell PS, Bennett CF, Pogosova-Agadjanyan EL, Stirewalt DL, Tait JF, Tewari M (2011) Argonaute2

complexes carry a population of circulating microRNAs independent of vesicles in human plasma. *Proc Natl Acad Sci USA*. 108:5003-5008.

Audic Y, Hartley RS (2004) Post-transcriptional regulation in cancer. *Biol. Cell*, 96, 479–498.

Austin L, Burgess AW (1991) Stimulation of myoblast proliferation in culture by leukaemia inhibitory factor and other cytokines. *J Neurol Sci* 101: 193-197.

Badyopadhyay S, Sengupta T, Spicer EK (2008) PMA induces stabilization of Oncostatin M mRNA in human lymphoma U937 cells *Biochem J*. 410:177-86.

Baek D, Villen J, Shin C, Camargo FD, Gygi SP, Bartel DP (2008) The impact of microRNAs on protein output. *Nature*. 455: 64-71.

Bakheet,T, Williams BR, Khabar KS (2003) ARED 2.0: an update of AU-rich element mRNA database. *Nucleic Acids Res*. 31,421–423.

Bamberger AM, Jenatschke S, Schulte HM, Loning T, Bamberger MC (2000) Leukemia inhibitory factor (LIF) stimulates the human HLA-G promoter in JEG3 choriocarcinoma cells. *J Clin Endocrinol Metab* 85: 3932-6.

Bando T, Morikawa Y, Komori T, Senba E (2006) Complete overlap of interleukin-31 receptor A and oncostatin M receptor beta in the adult dorsal root ganglia with distinct developmental expression patterns. *Neuroscience* 142: 1263-71.

Bandyopadhyay S, Sengupta TK, Spicer EK (2008) PMA induces stabilization of oncostatin-M mRNA in human lymphoma U937 cells. *Biochem. J*. 410: 177-186.

Banzet S, Koulmann N, Simler N, Birot O, Sanchez H, Chapot R, Peinnequin A, Bigard X (2005) Fibre-type specificity of interleukin-6 gene transcription during muscle contraction in rat: association with calcineurin activity. *J Physiol* 566: 839-847.

Barasch J, Yang J, Ware CB (1999) Mesenchymal to epithelial conversion in rat metanephros is induced by LIF. *Cell* 99:377-386.

Barreau C, Paillard L, Osborne HB (2005) AU-rich elements and associated factors: are there unifying principles? *Nucleic Acids Res* 33:7138-50.

- Bartel DP (2009) MicroRNAs: target recognition and regulatory functions. *Cell*. 136:215-233.
- Bartel DP (2004) MicroRNAs: genomics, biogenesis, mechanism, and function. *Cell*. 116: 281-297.
- Bentley DL (2005) Rules of engagement: co-transcriptional recruitment of pre-mRNA processing factors. *Current opinion in cell biology* 17:251-256.
- Berezikov E (2011) Evolution of microRNA diversity and regulation in animals. *Nat Rev Genet*. 12: 846-860.
- Bergalet J, Fawal M, Lopez C (2011) HuR-Mediated control of C/EBP β mRNA stability and translation in ALK-Positive anaplastic large cell lymphomas. *Mol Can Res*. 9: 485–496.
- Berger CM, Gaume X and Bouvet P (2015) The roles of nucleolin subcellular localization in cancer. *Biochimie*. 113:78-85.
- Besse F, Ephrussi A (2008) Translational control of localized mRNAs: restricting protein synthesis in space and time. *Nat Rev Mol Cell Biol* 9:971-980.
- Bhattacharyya SN, Habermacher R, Martine U, Closs EI, Filipowicz W (2006) Relief of microRNA-mediated translational repression in human cells subjected to stress. *Cell*. 125:1111-1124.
- Blanchard F, Duplomb L, Raheer S, Vusio P, Hoflack B, Jacques Y, Godard A (1999) Mannose 6-Phosphate/Insulin-like growth factor II receptor mediates internalization and degradation of leukemia inhibitory factor but not signal transduction. *J Biol Chem*. 274: 24685-93.
- Blanchard F, Raheer S, Duplomb L, Vusio P, Pitard V, Taupin JL, Moreau JF, Hoflack B, Minvielle S, Jacques Y, Godard A (1998) The mannose 6-phosphate/insulin-like growth factor II receptor is a nanomolar affinity receptor for glycosylated human leukemia inhibitory factor. *J Biol Chem* 273: 20886-93.
- Bolognani F, Gallani AI, Sokol L (2012) mRNA stability alterations mediated by HuR are necessary to sustain the fast growth of glioma cells. *J Neuro-Oncol* 106: 531–542.

- Boon RA, Vickers KC (2013) Intercellular transport of microRNAs. *Arterioscler Thromb Vasc Biol.* 33:186-192.
- Bose SK, Sengupta TK, Bandyopadhyay S, Spicer EK (2006) Identification of Ebp1 as a component of cytoplasmic bcl-2 Mrnp (messenger ribonucleoprotein particle) complexes. *Biochem. J.* 396: 99–107.
- Brennan CM, Steitz JA (2001) HuR and mRNA stability. *Cell Mol Life Sci.* 58: 266–277.
- Brinsden PR, Alam V, de Moustier B, Engrand P (2009) Recombinant human leukemia inhibitory factor does not improve implantation and pregnancy outcomes after assisted reproductive techniques in women with recurrent unexplained implantation failure. *Fertil Steril* 91:1445–1447
- Broholm C, Mortensen OH, Nielsen S, Akerstrom T, Zankari A, Dahl B, Pedersen BK (2008) Exercise induces expression of leukaemia inhibitory factor in human skeletal muscle. *J Physiol* 586: 2195-2201.
- Buckanovich RJ, Darnell RB (1997) The neuronal RNA binding protein Nova-1 recognizes specific RNA targets in vitro and in vivo. *Mol Cell Biol.* 17: 3194-3201.
- Bui TV, Mendell JT (2010) Myc: Maestro of MicroRNAs. *Genes & cancer.* 1: 568-575.
- Bürgi S, Samardzija M, Grimm C. Endogenous leukemia inhibitory factor protects photoreceptor cells against light-induced degeneration. *Mol Vis.* 2009 Aug 18;15:1631-7.
- Butzkueven H, Zhang JG, Soilu-Hanninen M, Hochrein H, Chionh F, Shipham KA, Emery B, Turnley AM, Petratos S, Ernst M, Bartlett PF, Kilpatrick TJ (2002) LIF receptor signaling limits immune-mediated demyelination by enhancing oligodendrocyte survival. *Nat Med* 8:613-619.
- Carballo E, Lai WS, Blackshear PJ (1998) Feedback inhibition of macrophage tumor necrosis factor-alpha production by tristetraprolin. *Science.* 281:1001-5.
- Carl JW, Bai XF (2008) IL27: its roles in the induction and inhibition of inflammation. *Int J Clin Exp Pathol.* 1: 117-23.

- Carlson CD, Bai Y, Jonakait GM, Hart RP (1996) Interleukin-1 beta increases leukemia inhibitory factor mRNA levels through transient stimulation of transcription rate. *Glia* 18(2):141-51.
- Carmell MA, Xuan Z, Zhang MQ, Hannon GJ (2002) The Argonaute family: tentacles that reach into RNAi, developmental control, stem cell maintenance, and tumorigenesis. *Genes Dev.* 16:2733-2742.
- Carpenter MK, Cui X, Hu ZY, Jackson J, Sherman S, Seiger A, Wahlberg LU (1999) In vitro expansion of a multipotent population of human neural progenitor cells. *Exp Neurol* 158:265-278
- Chambers I, Smith A. (2004) Self-renewal of teratocarcinoma and embryonic stem cells. *Oncogene* 23 :7150–7160.
- Charnock-Jones DS, Sharkey AM, Fenwick P, Smith SK (1994) Leukaemia inhibitory factor mRNA concentration peaks in human endometrium at the time of implantation and the blastocyst contains mRNA for the receptor at this time. *J Reprod Fertil* 101:421-426.
- Chaudhury A, Chander P, Howe PH (2010) Heterogeneous nuclear ribonucleoproteins (hnRNPs) in cellular processes: Focus on hnRNP E1's multifunctional regulatory roles. *Rna*. 16:1449-1462.
- Chaudhury A, Hussey GH, Ray PS, Jin G, Fox PL, Howe PH (2010) TGF-beta-mediated phosphorylation of hnRNP E1 induces EMT via transcript-selective translational induction of Dab2 and ILEI. *Nat Cell Biol.* 12: 286-293.
- Chen CY, Gherzi R, Ong SE, Chan EL, Rajmakers R, Pruijn GJ (2001) AU binding proteins recruit the exosome to degrade ARE-containing mRNAs. *Cell.* 107:451- 64.
- Chen CY, Shyu AB (1995) AU-rich elements: characterization and importance in mRNA degradation. *Trends Biochem. Sci.*, 20, 465–470.
- Chen CY, Shyu AB (2010) Mechanisms of deadenylation-dependent decay. *Wiley Interdisc.Rev. RNA* 2,167–183
- Chesnokova V, Kariagina A, Melmed S (2002) Opposing effects of pituitary leukemia inhibitory factor and SOCS-3 on the ACTH axis response to inflammation. *Am J Physiol Endocrinol Met* 282:E1110-E1118.

- Chkheidze AN, Liebhaber SA (2003) A novel set of nuclear localization signals determine distributions of the alphaCP RNA-binding proteins. *Mol Cell Biol.* 23: 8405-8415.
- Chkheidze AN, Lyakhov DL, Makeyev AV, Morales J, Kong J, Liebhaber SA (1999) Assembly of the alpha-globin mRNA stability complex reflects binary interaction between the pyrimidine-rich 3' untranslated region determinant and poly(C) binding protein alpha CP. *Mol Cell Biol.* 19: 4572-4581.
- Cole CN (2001) Choreographing mRNA biogenesis. *Nat Genet* 29:6-7.
- Coles LS, Bartley MA, Bert A, Hunter J, Polyak S, Diamond P (2004) A multi-protein complex containing cold shock domain (Y-box) and polypyrimidine tract binding proteins forms on the vascular endothelial growth factor mRNA. Potential role in mRNA stabilization. *Eur J Biochem.* 271: 648-60.
- Conne B, Stutz A, Vassalli JD (2000) The 3' untranslated region of messenger RNA: A molecular 'hotspot' for pathology? *Nature Med.*, 6, 637-641.
- Cordes KR, Sheehy NT, White MP, Berry EC, Morton SU, Muth AN, Lee TH, Miano JM, Ivey KN, Srivastava D (2009) miR-145 and miR-143 regulate smooth muscle cell fate and plasticity. *Nature.* 460:705-710.
- Darnell JE (1982) Variety in the level of gene control in eukaryotic cells. *Nature.* 297: 365-371.
- Das D, Pintucci G, Stern A (2000) MAPK-dependent expression of p21 (WAF) and p27(kip1) in PMA-induced differentiation of HL60 cells *FEBS Lett.* 472 :50-2.
- Dazai S, Akita S, Hirano A, Rashid MA, Naito S, Akino K, Fujii T (2000) Leukemia inhibitory factor enhances bone formation in calvarial bone defect. *J Craniofac Surg ;* 11:513-520.
- De Rosa S, Fichtlscherer S, Lehmann R, Assmus B, Dimmeler S, Zeiher AM (2011) Transcoronary concentration gradients of circulating microRNAs. *Circulation.* 124:1936-1944.
- Dean JL, Wait R, Mahtani KR, Sully G, Clark AR, Saklatvala J (2001). The 3' untranslated region of tumor necrosis factor alpha mRNA is a target of the mRNA-stabilizing factor HuR. *Mol Cell Biol.* 21:721-30.

- Denli AM, Tops BB, Plasterk RH, Ketting RF, Hannon GJ (2004) Processing of primary microRNAs by the Microprocessor complex. *Nature*. 432: 231-235.
- Derigs HG, Boswell HS (1993) LIF mRNA expression is transcriptionally regulated in murine bone marrow stromal cells. *Leukemia* 7(4):630-4.
- Dimitriadis E, Nie G, Hannan N, Paiva P, Salamonsen LA (2010) Local regulation of implantation at the human fetal–maternal interface. *Int J Dev Biol* 54: 313–322.
- Doller A, Pfeilschifter J, Eberhardt W (2008) Signalling pathways regulating nucleocytoplasmic shuttling of the mRNA-binding protein HuR. *Cell Signal*. 20: 2165–2173.
- Dreyfuss G, Hentze M, Lamond AI (1996) From transcript to protein. *Cell*85:963-972.
- Duttagupta R, Jones KW (2013) The curious case of miRNAs in circulation: potential diagnostic biomarkers? *Wiley Interdiscip Rev RNA*. 4:129-138.
- Elson GC, Lelievre E, Guillet C, Chevalier S, Plun-Favreau H, Froger J, Suard I, de Coignac AB, Delneste Y, Bonnefoy JY, Gauchat JF, Gascan H (2000) CLF associates with CLC to form a functional heteromeric ligand for the CNTF receptor complex. *Nat Neurosci* 2000; 3: 867-72.
- Erickson SL, Lykke-Andersen J (2011) Cytoplasmic mRNP granules at a glance. *J Cell Sci* 124:293-297.
- Escary JL, Perreau J, Dumenil D, Ezine S, Brulet P (1993) Leukaemia inhibitory factor is necessary for maintenance of haematopoietic stem cells and thymocyte stimulation. *Nature* 363:361-364.
- Espel E (2005) The role of the AU-rich elements of mRNAs in controlling translation. *Semin Cell Dev Biol*. 16:59-67.
- Esquela-Kerscher A, Slack FJ (2006) Oncomirs - microRNAs with a role in cancer. *Nat Rev Cancer*. 6: 259-269.
- Eulalio A, Huntzinger E, Izaurralde E (2008) GW182 interaction with Argonaute is essential for miRNA-mediated translational repression and mRNA decay. *Nat Struct Mol Biol*. 15: 346-353.

- Eulalio A, Tritschler F, Izaurralde E (2009) The GW182 protein family in animal cells: new insights into domains required for miRNA-mediated gene silencing. *Rna*. 15: 1433-1442.
- Fabian MR, Sonenberg N (2012). The mechanics of miRNA-mediated gene silencing: a look under the hood of miRISC. *Nat Struct Mol Biol*. 19:586-593.
- Fahmi A, Smart N, Punj A, Jabr R, Marber M, Heads R (2013) p42/p44-MAPK and PI3K are sufficient for IL-6 family cytokines/gp130 to signal to hypertrophy and survival in cardiomyocytes in the absence of JAK/STAT activation, *Cell. Signalling* 25: 898–909.
- Farh KK, Grimson A, Jan C, Lewis BP, Johnston WK, Lim LP, Burge CB, Bartel DP (2005) The widespread impact of mammalian MicroRNAs on mRNA repression and evolution. *Science*. 310: 1817-1821.
- Fazi F, Nervi C (2008) MicroRNA : basic mechanisms and transcriptional regulatory networks for cell fate determination. *Cardiovasc Res*. 79(4):553-61.
- Fialcowitz-White EJ, Brewer BY, Ballin JD, Willis CD, Toth EA, Wilson GM (2007) Specific protein domains mediate cooperative assembly of HuR oligomers on AU-rich mRNA-destabilizing sequences. *J Biol Chem*. 282(29): 20948-59.
- Fichtlscherer S., Zeiher AM, Dimmeler S (2011) Circulating microRNAs: biomarkers or mediators of cardiovascular diseases? *Arterioscler Thromb Vasc Biol*. 31:2383-2390.
- Filippova N, Yang X, Wang Y, Gillespie GY, Langford C, King PH, Wheeler C, Nabors, LB (2011) The RNA-binding protein HuR promotes glioma growth and treatment resistance. *Mol Can Res*. 9: 648–659.
- Franks TM, Lykke-Andersen J (2008). The control of mRNA decapping and P-body formation. *Mol Cell*. 32: 605-15.
- Friedman RC, Farh KK, Burge CB, Bartel DP (2009) Most mammalian mRNAs are conserved targets of microRNAs. *Gen Res*. 19: 92-105.
- Fujio Y, Matsuda T, Oshima Y, Maeda M, Mohri T, Ito T, Takatani T, Hirata M, Nakaoka Y, Kimura R, Kishimoto T, Azuma J (2004) Signals through gp130 upregulate Wnt5a and contribute to cell adhesion in cardiac myocytes. *FEBS Lett* 573: 202-6.

- Funke B, Zuleger B, Benavente R, Schuster T, Goller M, Stevenin J, Horak I (1996) The mouse poly(C)-binding protein exists in multiple isoforms and interacts with several RNA-binding proteins. *Nucleic Acids Res.* 24:3821-3828.
- Gallouzi IE, Brennan CM, Stenberg MG, Swanson MS, Eversole A, Maizels N, Steitz JA (2000) HuR binding to cytoplasmic mRNA is perturbed by heat shock. *Proc Natl Acad Sci USA.* 97: 3073-3078.
- Gamarnik AV, Andino R (1997) Two functional complexes formed by KH domain containing proteins with the 5' noncoding region of poliovirus RNA. *Rna.* 3: 882-892.
- Gascan H, Godard A, Ferez C, Naulet J, Praloran V, Peyrat MA, Hewick R, Jacques Y, Moreau JF, Soulillou JP (1989) Characterization and NH₂-terminal amino acid sequence of natural human interleukin for DA cells: leukemia inhibitory factor. Differentiation inhibitory activity secreted by a T lymphoma cell line. *J Biol Chem.* 264: 21509-15.
- Gearing DP, Gough NM, King JA, Hilton DJ, Nicola NA, Simpson RJ, Nice EC, Kelso A, Metcalf D (1987) Molecular cloning and expression of cDNA encoding a murine myeloid leukaemia inhibitory factor (LIF). *EMBO J.* 6(13):3995-4002.
- Gherzi R, Lee KY, Briata P, Wegmuller D, Moroni C, Karin M (2004) A KH domain RNA binding protein, KSRP, promotes ARE-directed mRNA turnover by recruiting the degradation machinery. *Mol Cell.* 14: 571-83.
- Giese B, Roderburg C, Sommerauer M, Wortmann SB, Metz S, Heinrich PC, Müller-Newen G (2005) Dimerization of the cytokine receptors gp130 and LIFR analyzed in single cells. *J Cell Sci* 2005; 118 (Pt 21): 5129-40.
- Gingras AC, Raught B, Sonenberg N (1999) eIF4 initiation factors: effectors of mRNA recruitment to ribosomes and regulators of translation. *Annu Rev Biochem.* 68: 913-963.
- Glorian V, Maillot G, Poles S, Iacovoni JS, Favre G, Vagner S (2011) HuR-dependent loading of miRNA RISC to the mRNA encoding the Ras-related small GTPase RhoB controls its translation during UV-induced apoptosis. *Cell Death Differ.* 18:1692-1701.
- Godard A, Gascan H, Naulet J, Peyrat MA, Jacques Y, Soulillou JP, Moreau JF (1988) Biochemical characterization and purification of HILDA, a human lymphokine active on eosinophils and bone marrow cells. *Blood.* 71: 1618-23.

- Goler-Baron V, Selitrennik M, Barkai O, Haimovich G, Lotan R, Choder M (2008) Transcription in the nucleus and mRNA decay in the cytoplasm are coupled processes. *Genes Dev* 22:2022-2027.
- Goodarzi H, Zhang S, Buss CG, Fish L, Tavazoie S, Tavazoie SF (2014) Metastasis-suppressor transcript destabilization through TARBP2 binding of mRNA hairpins. *Nature*. 513 (7517): 256-60.
- Gough NM, Gearing DP, King JA, Willson TA, Hilton DJ, Nicola NA, Metcalf D (1988) Molecular cloning and expression of the human homologue of the murine gene encoding myeloid leukemia-inhibitory factor. *Proc Natl Acad Sci U S A*. 85(8):2623-7.
- Gough NM, Wilson TA, Stahl J, Brown MA (1992) Molecular biology of the leukaemia inhibitory factor gene. *Ciba Found Symp*. 167:24-38
- Gratacós FM, Brewer G (2010) The role of AUF1 in regulated mRNA decay. *Wiley Interdiscip Rev RNA*. 1(3):457-73.
- Gregory RI, Yan KP, Amuthan G, Chendrimada T, Doratotaj B, Cooch N, Shiekhattar R (2004) The Microprocessor complex mediates the genesis of microRNAs. *Nature*. 432: 235-240.
- Grimson A, Farh KK, Johnston WH, Garrett-Engele P, Lim LP, Bartel DP (2007) MicroRNA targeting specificity in mammals: determinants beyond seed pairing. *Mol Cell*. 27: 91-105.
- Grolleau D, Soulillou JP, Anegon I (1991) Control of HILDA/LIF gene expression in activated human monocytes. *Ann N Y Acad Sci*. 628:19-30.
- Haines BP, Voyle RB, Pelton TA, Forrest R, Rathjen PD (1999) Complex conserved organization of the mammalian leukemia inhibitory factor gene: regulated expression of intracellular and extracellular cytokines. *J Immunol* 162: 4637-46.
- Haines BP, Voyle RB, Rathjen PD (2000) Intracellular and extracellular leukemia inhibitory factor proteins have different cellular activities that are mediated by distinct protein motifs. *Mol Biol Cel* 11: 1369-83.
- Hallet MM, Peyrat MA, Soulillou JP, Moreau JF (1992) Simultaneous transcription of eleven cytokines in human alloreactive T lymphocyte clones after stimulation by phorbol ester and A23187. *Eur Cytokine Netw*. 5:477-83.

Hamilton BJ, Genin A, Cron RQ, Rigby WF (2003) Delineation of a novel pathway that regulates CD154 (CD40 ligand) expression. *Mol Cell Biol.* 23: 510-25.

Harpold MM, Wilson MC, Darnell JE (1981) Chinese hamster polyadenylated messenger ribonucleic acid: relationship to non-polyadenylated sequences and relative conservation during messenger ribonucleic acid processing, *Mol. Cell. Biol* 1: 188–198.

He L, Hannon GJ (2004) MicroRNAs: small RNAs with a big role in gene regulation. *Nat Rev Genet.* 5: 522-531.

Heinrich PC, Behrmann I, Haan S, Hermanns HM, Muller-Newen G, Schaper F (2003) Principles of interleukin (IL)-6-type cytokine signaling and its regulation. *Biochem J.* 374: 1-20.

Hentze MW (1997) eIF4G: a multipurpose ribosome adapter? *Science.* 275: 500-501.

Hergenreider E, Heydt S, Treguer K, Boettger T, Horrevoets AJ, Zeiher AM, Scheffer MP, Frangakis AS, Yin X, Mayr M, Braun T, Urbich C, Boon RA, Dimmeler S (2012) Atheroprotective communication between endothelial cells and smooth muscle cells through miRNAs. *Nat Cell Biol.* 14:249-256.

Hieronimus H, Silver PA (2004) A systems view of mRNP biology. *Genes Dev.* 18:2845-2860.

Hilton DJ, Nicola NA, Metcalf D (1988) Purification of a murine leukemia inhibitory factor from Krebs ascites cells. *Anal Biochem.* 173(2):359-67.

Hira H, Karian P, Kikyo N (2011) Regulation of embryonic stem cell self-renewal and pluripotency by leukaemia inhibitory factor, *Biochem. J.* 438: 11–23.

Hirobe T(2002) Role of leukemia inhibitory factor in the regulation of the proliferation and differentiation of neonatal mouse epidermal melanocytes in culture. *J Cell Physiol* 192:315-326.

Hisaka T, Desmouliere A, Taupin JL, Daburon S, Neaud V, Senant N, Blanc JF, Moreau JF, Rosenbaum J (2004) Expression of leukemia inhibitory factor (LIF) and its receptor gp190 in human liver and in cultured human liver myofibroblasts. Cloning of new isoforms of LIF mRNA. *Comp Hepatol* 3: 10.

BIBLIOGRAPHY

- Holcik M, Liebhaber SA (1997) Four highly stable eukaryotic mRNAs assemble 3' untranslated region RNA-protein complexes sharing cis and trans components. *Proc Natl Acad Sci U S A*. 94: 2410-2414.
- Hu J, Ono S, Katayama H, Imai T, Shimizu N, Nakagawa H (2000) Leukemia inhibitory factor induces epidermal hyperplasia in patients with amyotrophic lateral sclerosis. *J Invest Dermatol* ;115:486-492.
- Hung CY, Yang WB, Wang SA, Hsu TI, Chang WC, Hung JJ (2014) Nucleolin enhances internal ribosomal entry site (IRES)-mediated translation of Sp1 in tumorigenesis. *Biochim Biophys Acta*.1843, 12: 2843-54.
- Huntzinger E, Izaurralde E (2011) Gene silencing by microRNAs: contribution of translational repression and mRNA decay. *Nat Rev Genet*. 12: 99-110.
- Ichikawa Y(1969) Differentiation of a cell line of myeloid leukemia. *J Cell Physiol*. 74: 223-34.
- Indu R, Chakraborty A, Sengupta S, Sengupta TK (2013) Regulation of Gene Expression through mRNA Stability: Implications in Cancer Development and Therapeutics. *Recent Trends in Gene Expression*. Subhrangsu S. Mandal (Ed.), Nova Science Publishers, Hauppauge, NY, USA.
- Ishimaru D, Zuraw L, Ramalingam S, Sengupta TK, Bandyopadhyay S, Reuben A, Fernandes DJ, Spicer EK (2010) Mechanism of regulation of bcl-2 mRNA by nucleolin and A+U-rich element-binding factor 1 (AUF1). *J. Biol. Chem*. 285: 27182-27191.
- Jackson RJ, Hellen CU, Pestova TV (2010) The mechanism of eukaryotic translation initiation and principles of its regulation. *Nat Rev Mol Cell Biol*. 11:113-127.
- Jensen KB, Musunuru K, Lewis HA, Burley SK, Darnell RB (2000) The tetranucleotide UCAY directs the specific recognition of RNA by the Nova K-homology 3 domain. *Proc Natl Acad Sci USA*. 97: 5740-5745.
- Jiang Y, Xu XS, Russell JE (2006) A Nucleolin-Binding 3' Untranslated Region Element Stabilizes {beta}-Globin mRNA In Vivo. *Mol. Cell. Biol*. 26: 2419 - 2429.

- Kakuguchi W, Kitamura T, Kuroshima T (2010) HuR knockdown changes the oncogenic potential of oral cancer cells. *Mol Can Res.* 8: 520–528.
- Kami K, Senba E (1988) Localization of leukemia inhibitory factor and interleukin-6 messenger ribonucleic acids in regenerating rat skeletal muscle. *Muscle Nerve* 21: 819-822.
- Kerr BJ, Patterson PH(2004) Potent pro-inflammatory actions of leukemia inhibitory factor in the spinal cord of the adult mouse. *Exp Neurol* 188: 391-407.
- Kiledjian M, DeMaria CT, Brewer G, Novick K (1997) Identification of AUF1 (heterogeneous nuclear ribonucleoprotein D) as a component of the alpha-globin mRNA stability complex. *Mol Cell Biol.* 17: 4870-4876.
- Kiledjian M, Wang X, Liebhaber SA (1995) Identification of two KH domain proteins in the alpha-globin mRNP stability complex. *Embo J.* 14: 4357-4364.
- Kim HH, Kuwano Y, Srikantan S, Lee EK, Martindale JL, Gorospe M (2009) HuR recruits let-7/RISC to repress c-Myc expression. *Genes Dev.* 23:1743-1748.
- Kong J, Ji X, Liebhaber SA (2003) The KH-domain protein alpha CP has a direct role in mRNA stabilization independent of its cognate binding site. *Mol Cell Biol.* 23:1125-1134.
- Kong J, Lasko P (2012) Translational control in cellular and developmental processes. *Nat Rev Genet.* 13:383-394.
- Koopman P, Cotton RG (1984) A factor produced by feeder cells which inhibits embryonal carcinoma cell differentiation. Characterization and partial purification. *Exp Cell Res.*154: 233-42.
- Kosaka N, Iguchi H, Yoshioka Y, Takeshita F, Matsuki Y, Ochiya T (2010) Secretory mechanisms and intercellular transfer of microRNAs in living cells. *J Biol Chem.* 285:17442-17452.
- Kosinski PA, Laughlin J, Singh K, Covey LR (2003) A Complex Containing Polypyrimidine Tract-Binding Protein Is Involved in Regulating the Stability of CD40 Ligand (CD154) mRNA. *J Immunol.* 170: 979-88.
- Krishnan T, Winship A, Sonderegger S, Menkhorst , Horne EA, Brown J (2013) The role of leukemia inhibitory factor in tubal ectopic pregnancy, *Placenta* 34:1014–101.

- Kudla G, Lipinski L, Caffin F, Helwak A, Zylicz M (2006) High Guanine and Cytosine Content Increases mRNA Levels in Mammalian Cells. *PLoS Biol.* 4, 6: e180.
- Kumar MS, Erkeland SJ, Pester RE, Chen CY, Ebert MS, Sharp PA, Jacks T (2008) Suppression of non-small cell lung tumor development by the let-7 microRNA family. *Proc Natl Acad Sci USA.* 105: 3903-3908.
- Kundu P, Fabian MR, Sonenberg N, Bhattacharyya SN, Filipowicz W (2012) HuR protein attenuates miRNA-mediated repression by promoting miRISC dissociation from the target RNA. *Nucleic Acids Res.* 40:5088-5100.
- Kurek JB, Bower JJ, Romanella M, Koentgen F, Murphy M and Austin L (1997) The role of leukemia inhibitory factor in skeletal muscle regeneration. *Muscle Nerve* 20: 815- 822, 1997.
- Lai WS, Parker JS, Grissom SF, Stumpo DJ, Blackshear PJ (2006) Novel mRNA targets for tristetraprolin (TTP) identified by global analysis of stabilized transcripts in TTP deficient fibroblasts. *Mol Cell Biol.* 26: 9196-208.
- Laird SM, Tuckerman EM, Dalton CF, Dunphy BC, Li TC, Zhang X (1997) The production of leukaemia inhibitory factor by human endometrium: presence in uterine flushings and production by cells in culture. *Hum Reprod* 12: 569–574.
- Lal A, Mazan-Mameczarz K, Kawai T, Yang X, Martindale JL, Gorospe M (2004) Concurrent versus individual binding of HuR and AUF1 to common labile target mRNAs. *EMBO J.* 23: 3092–3102.
- Leary AG, Wong GG, Clark SC, Smith AG, Ogawa M (1990) Leukemia inhibitory factor differentiation-inhibitory activity/human interleukin for DA cells augments proliferation of human hematopoietic stem cells. *Blood* 75: 1960-1964.
- Lee RC, Feinbaum RL, Ambros V (1993) The *C. elegans* heterochronic gene *lin-4* encodes small RNAs with antisense complementarity to *lin-14*. *Cell.* 75: 843-854.
- LeFebvre AK, Korneeva NL, Trutschl M, Cvek U, Duzan RD, Bradley CA, Hershey JW, Rhoads RE (2006) Translation initiation factor eIF4G-1 binds to eIF3 through the eIF3e subunit. *J Biol Chem.* 281: 22917-22932.

- Leffers H, Dejgaard K, Celis JE (1995). Characterisation of two major cellular poly(rC)-binding human proteins, each containing three K-homologous (KH) domains. *Eur J Biochem.* 230: 447-453.
- Lehmann U, Schmitz J, Weissenbach M, Sobota RM, Hortner M, Friederichs K, Behrmann I, Tsiaris W, Sasaki A, Schneider-Mergener J, Yoshimura A, Neel BG, Heinrich PC, Schaper F (2003) SHP2 and SOCS3 contribute to Tyr-759-dependent attenuation of interleukin-6 signaling through gp130. *J Biol Chem.* 278: 661-71.
- Lemons AR, Naz RK (2012) Birth control vaccine targeting leukemia inhibitory factor, *Mol. Reprod. Dev.* 79: 97–106.
- Leung AK, Sharp PA. (2010) MicroRNA functions in stress responses. *Mol Cell.* 40: 205-215.
- Lewis BP, Shih IH, Jones-Rhoades MW, Bartel DP, Burge CB (2003) Prediction of mammalian microRNA targets. *Cell.* 115:787-798.
- Li Y, Kiledjian M (2010) Regulation of mRNA decapping. *Wiley Interdiscip Rev RNA.* 1: 253–265.
- Liang H, Huang L, Cao J, Zen K, Chen X, Zhang CY (2012) Regulation of mammalian gene expression by exogenous microRNAs. *Wiley Interdiscip Rev RNA* 3:733-742.
- Lipton JM, Sachs L (1981) Characterization of macrophage- and granulocyte-inducing proteins for normal and leukemic myeloid cells produced by the Krebs ascites tumor. *Biochim. Biophys. Acta.* 673, 552- 69.
- Lorenzen JM, Menne J, Schmidt BM, Schmidt M, Martino F, Dietrich R, Samiri S, Worthmann H, Heeren M, Weissenborn K, Haller H, Schiffer M, Kielstein JT, Thum T (2012). Circulating microRNAs in patients with Shiga-Toxin producing E. coli O104:H4 induced hemolytic uremic syndrome. *PLoS One.* 7: e47215.
- Lorenzen JM, Thum T (2012) Circulating and urinary microRNAs in kidney disease. *Clinical journal of the American Society of Nephrology : CJASN.* 7:1528-1533.
- Lovren F, Pan Y, Quan A, Singh KK, Shukla PC, Gupta N, Steer BM, Ingram AJ, Gupta M, Al-Omran M, Teoh H, Marsden PA, Verma P (2012) MicroRNA-145 targeted therapy reduces atherosclerosis. *Circulation.* 126: S81-90.

- Lu J, Getz G, Miska EA, Alvarez-Saavedra E, Lamb J, Peck D, Sweet-Cordero A, Ebert BL, Mak RH, Ferrando AA, Downing JR, Jacks T, Horvitz HR, Golub TR (2005). MicroRNA expression profiles classify human cancers. *Nature*. 435: 834-838.
- Lu JY, Bergman N, Sadri N, Schneider RJ (2006). Assembly of AUF1 with eIF4G-poly (A) binding protein complex suggests a translation function in AU-rich mRNA decay. *Rna*. 12: 883-93.
- Lujambio A, Lowe SW (2012) The microcosmos of cancer. *Nature*. 482: 347-355.
- M Minami, M Inoue, S Wei, K Takeda, M Matsumoto, T Kishimoto, S Akira (1996) STAT3 activation is a critical step in gp130-mediated terminal differentiation and growth arrest of a myeloid cell line. *Proc Natl Acad Sci USA*. 93: 3963–3966.
- Ma P, Cui X, Wang S, Zhang J, Nishanian EV, Wang W (2004) Nitric oxide post-transcriptionally upregulates LPS-induced IL-8 expression through p38 MAPK activation. *J Leukoc Biol*. 76: 278-87.
- Ma WJ, Cheng S, Campbell C (1996) Cloning and characterization of HuR, a ubiquitously expressed Elav-like protein. *J. Biol. Chem*. 271: 8144–8151.
- Maeda M, Horiuchi M, Numa S, Ichikawa Y (1977) Characterization of a differentiation-stimulating factor for mouse myeloid leukemia cells. *Gann*. 68: 435-47.
- Makeyev AV, Liebhaber SA (2000). Identification of two novel mammalian genes establishes a subfamily of KH-domain RNA-binding proteins. *Genomics*. 67:301-316.
- Malaval L, Aubin JE (2001) Biphasic effects of leukemia inhibitory factor on osteoblastic differentiation. *J Cell Biochem (suppl 36)*:63-70.
- Marco A, Macpherson JJ, Ronshaugen M, Griffiths-Jones S (2012) MicroRNAs from the same precursor have different targeting properties. *Silence*. 3:8.
- Marquis J, Paillard L, Audic Y, Cosson B, Danos O, Le Bec C (2006) CUG-BP1/CELF1 requires UGU-rich sequences for high-affinity binding. *Biochem J*. 400: 291-301.
- Mauduit C, Goddard I, Besset V, Tabone E, Rey C, Gasnier F, Dacheux F, Benahmed M (2001) Leukemia inhibitory factor antagonizes gonadotropin induced-testosterone synthesis in cultured porcine leydig cells: sites of action. *Endocrinol* 142:2509-2520.

- Medina PP, Nolde M, Slack FJ (2010) OncomiR addiction in an in vivo model of microRNA-21-induced pre-B-cell lymphoma. *Nature*. 467: 86-90.
- Meister G, Tuschl T (2004) Mechanisms of gene silencing by doublestranded RNA. *Nature*. 431:343-349.
- Meng Q, Rayala SK, Gururaj AE, Talukder AH, O'Malley BW, Kumar R (2007) Signaling-dependent and coordinated regulation of transcription, splicing, and translation resides in a single coregulator, PCBP1. *Proc Natl Acad Sci USA*. 104: 5866-5871.
- Messias AC, Harnisch C, Ostareck-Lederer A, Sattler M, Ostareck DH (2006) The DICE binding activity of KH domain 3 of hnRNP K is affected by c-Src-mediated tyrosine phosphorylation. *J Mol Biol*. 361: 470-81.
- Metcalf D (2003) The unsolved enigmas of leukemia inhibitory factor. *Stem Cells*. 21: 5-14.
- Metcalf SM (2005) Axotrophin and leukaemia inhibitory factor (LIF) in transplantation tolerance *Philos Trans R Soc Lond B Biol Sci* 360: 1687-94.
- Metcalf SM (2011) LIF in the regulation of T-cell fate and as a potential therapeutic, *Genes Immun*. 12:157–168.
- Ming XF, Stoecklin G, Lu M, Looser R, Moroni C (2001) Parallel and independent regulation of interleukin-3 mRNA turnover by phosphatidylinositol 3-kinase and p38 mitogen activated protein kinase. *Mol Cell Biol*. 21: 5778-89.
- Miniard AC, Middleton, LM, Budiman ME, Gerber CA, Driscoll DM (2010) Nucleolin binds to a subset of selenoprotein mRNAs and regulates their expression. *Nucleic Acids Res*. 38: 4807-4820.
- Mitchell PS, Parkin RK, Kroh EM, Fritz BR, Wyman SK, Pogosova-Agadjanyan EL, Peterson A, Noteboom J, O'Briant KC, Allen A, Lin DW, Urban N, Drescher CW, Knudsen BS, Stirewalt DL, Gentleman R, Vessella RL, Nelson PS, Martin DB, Tewari M (2008) Circulating microRNAs as stable blood-based markers for cancer detection. *Proc Natl Acad Sci USA*. 105:10513-10518.
- Moraes KC, Wilusz CJ, Wilusz J (2006) CUG-BP binds to RNA substrates and recruits PARN deadenylase. *Rna*.12: 1084-91.

- Morikawa Y, Tohya K, Tamura S, Ichihara M, Miyajima A, Senba E (2000) Expression of interleukin-6 receptor, leukemia inhibitory factor receptor and glycoprotein 130 in the murine cerebellum and neuropathological effect of leukemia inhibitory factor on cerebellar Purkinje cells. *Neuroscience* 100:841-848.
- Mukherji S, Ebert MS, Zheng GX, Tsang GS, Sharp PA, van Oudenaarden A (2011) MicroRNAs can generate thresholds in target gene expression. *Nat Genet.* 43: 854-859.
- Muller-McNicoll M, Neugebauer KM (2013) How cells get the message: dynamic assembly and function of mRNA-protein complexes. *Nat Rev Genet.*
- Murakami M, Kamimura D, Hirano T (2004) New IL-6 (gp130) family cytokine members, CLC/NNT1/BSF3 and IL-27 Growth Factors 2004; 22: 75-7.
- Murphy M, Reid K, Hilton DJ, Bartlett BF (1991) Generation of sensory neurons is stimulated by leukemia inhibitory factor. *Proc Natl Acad Sci USA* 88:3498-3501.
- Muthukumarana PA, Lyons GE, Miura Y, et al. Evidence for functional inter-relationship between FOXP3, leukaemia inhibitory factor, and axotrophin/MARCH-7 in transplantation tolerance. *Int Immunopharmacol* 2006; 6: 1993-2001.
- Neugebauer KM (2002) On the importance of being co-transcriptional. *J Cell Sci* 115:3865-3871.
- Ni H, Ding NZ, Harper MJ, Yang ZM (2002) Expression of leukemia inhibitory factor receptor and gp 130 in mouse uterus during early pregnancy. *Mol Reprod Dev* 63: 143-150.
- Nichols J, Smith A (2009) Naive and primed pluripotent states. *Cell Stem Cell* 4: 487-492.
- Nichols J, Smith A (2011) The origin and identity of embryonic stem cells. *Development* 138: 3-8.
- Nicola NA, Babon JJ (2015) Leukemia inhibitory factor (LIF) Cytokine Growth Factor Rev. pii: S1359-6101(15)00049-0.
- Nilsson EE, Kezele P, Skinner MK (2002) Leukemia inhibitory factor (LIF) promotes the primordial to primary follicle transition in rat ovaries. *Mol Cell Endocrinol* 188:65-73.
- Niwa H (2007) How is pluripotency determined and maintained? *Development* 134:635-646.

Nowotarski SL, Shantz LM (2010) Cytoplasmic accumulation of the RNA-binding protein HuR stabilizes the ornithine decarboxylase transcript in a murine nonmelanoma skin cancer model. *The J. Biol. Chem.* 285: 31885–31894.

Ogilvie RL, Abelson M, Hau HH, Vlasova I, Blackshear PJ, Bohjanen PR (2005). Tristetraprolin downregulates IL-2 gene expression through AU-rich element-mediated mRNA decay. *J Immunol.* 174: 953-61.

Oh H, Fujio Y, Kunisada K, Hirota H, Matsui H, Kishimoto T, Yamauchi-Takahara K (1998) Activation of phosphatidylinositol 3-kinase through glycoprotein 130 induces protein kinase B and p70 S6 kinase phosphorylation in cardiac myocytes, *J. Biol. Chem.* 273: 9703–9710.

Ostareck DH, Ostareck-Lederer A, Shatsky IN, Hentze MW (2001) Lipoygenase mRNA silencing in erythroid differentiation: The 3'UTR regulatory complex controls 60S ribosomal subunit joining. *Cell.* 104: 281-290.

Ostareck DH, Ostareck-Lederer A, Wilm M, Thiele BJ, Mann M, Hentze MJ (1997) mRNA silencing in erythroid differentiation: hnRNP K and hnRNP E1 regulate 15-lipoxygenase translation from the 3' end. *Cell.* 89:597-606.

Otake Y, Sengupta TK, Bandyopadhyay S, Spicer EK, Fernandes DJ (2004) Drug-induced destabilization of bcl-2 mRNA: a new approach for inducing apoptosis in tumor cells. *Curr. Opin. Investig. Drugs.* 5: 616 -622.

Otake Y, Sengupta TK, Bandyopadhyay S, Spicer EK, Fernandes DJ (2005) Retinoid-induced apoptosis in HL-60 cells is associated with nucleolin down-regulation and destabilization of Bcl-2 mRNA. *Mol. Pharmacol.* 67: 319-326.

Otake Y, Soundararajan S, Sengupta TK, Kio EA, Smith JC, Pineda-Roman M, Stuart RK, Spicer EK, Fernandes DJ (2007) Overexpression of nucleolin in chronic lymphocytic leukemia cells induces stabilization of bcl2 mRNA. *Blood.* 109 (7):3069-75.

Pan W, Yu C, Hsuchou H, Zhang Y, Kastin AJ (2008) Neuroinflammation facilitates LIF entry into brain: role of TNF. *AmJ Physiol Cell Physiol* 294: C1436-C1442.

Patterson BK, Behbahani H, Kabat WJ Sullivan Y, O'Gorman MR, Landay A, Flener Z, Khan N, Yogev R, Andersson J (2001) Leukemia inhibitory factor inhibits HIV-1

replication and is upregulated in placentae from nontransmitting women. *J Clin Invest* 107:287-294.

Pautz A, Linker K, Hubrich T, Korhonen R, Altenhofer S, Kleinert H (2006) The polypyrimidine tract-binding protein (PTB) is involved in the post-transcriptional regulation of human inducible nitric oxide synthase expression. *J Biol Chem.* 281: 32294-302.

Peng SS, Chen CY, Xu N, Shyu AB (1998) RNA stabilization by the AU-rich element binding protein, HuR, an ELAV protein. *EMBO J.* 17:3461-70.

Pera MF, Tam PP (2010) Extrinsic regulation of pluripotent stem cells. *Nature* 465, 713–720.

Pflanz S, Hibbert L, Mattson J, Rosales R, Vaisberg E, Bazan JF, Phillips JH, McClanahan TK, de Waal Malefyt R, Kastelein RA (2004) WSX-1 and glycoprotein130 constitute a signal-transducing receptor for IL-27. *J Immunol.*172: 2225-31.

Pichiorri F, Palmieri D, De Luca L, Consiglio J, You J, Rocci A, Talabere T, Piovan C, Lagana, L. Cascione, J. Guan, P. Gasparini, V. Balatti, G. Nuovo, Coppola AV, Hofmeister CC, Marcucci C, Byrd JC, Volinia S, Shapiro CL Freitas MA, Croce CM (2013) In vivo NCL targeting affects breast cancer aggressiveness through miRNA regulation, *J. Exp. Med.* 210, 951e 968.

Pickering BF, Yu D, Van Dyke MW (2011) Nucleolin protein interacts with microprocessor complex to affect biogenesis of microRNAs 15a and 16. *J Biol Chem.* 286, 51:44095-103.

Piquet-Pellorce C, Dorval-Coiffec I, Pham MD , Jégou B (2000) Leukemia inhibitory factor expression and regulation within the testis. *Endocrinol* 141:1136-1141.

Plisov SY, Yoshino K, Dove LF (2001) TGF beta 2, LIF and FGF2 cooperate to induce nephrogenesis. *Development* 128:1045-1057

Quiat D, Olson EN (2013) MicroRNAs in cardiovascular disease: from pathogenesis to prevention and treatment. *J Clin Invest.* 123:11-18.

Raghavan A, Ogilvie RL, Reilly C, Abelson ML, Raghavan S, Vasdevani J (2002) Genome-wide analysis of mRNA decay in resting and activated primary human T lymphocytes. *Nucleic Acids Res.* 30: 5529-38.

Rathjen PD, Toth S, Willis A, Heath JK, Smith AG (1990) Differentiation inhibiting activity is produced in matrix-associated and diffusible forms that are generated by alternate promoter usage. *Cell*. 62: 1105-14.

Reid LR, Lowe C, Skinner SJ, Hilton DJ, Willson TA, Gearing DP, Martin TJ. Leukemia inhibitory factor: a novel bone-active cytokine. *Endocrinol* 1990;126:1416-1420.

Robb GB, Brown KM, Khurana J, Rana TM (2005) Specific and potent RNAi in the nucleus of human cells. *Nat Struct Mol Biol*. 12:133-137.

Robertson M, Chambers I, Rathjen P, Nichols J, Smith A (1993) Expression of alternative forms of differentiation inhibiting activity (DIA/LIF) during murine embryogenesis and in neonatal and adult tissues. *Dev Genet*. 14: 165-73.

Rodgers ND, Wang Z, Kiledjian M (2002) Characterization and purification of a mammalian endoribonuclease specific for the alpha -globin mRNA. *J Biol Chem*. 277: 2597-2604. 117

Rodgers ND, Wang Z, Kiledjian M (2002) Regulated alpha-globin mRNA decay is a cytoplasmic event proceeding through 3'-to-5' exosome-dependent decapping. *Rna*. 8:1526-1537.

Ross J (1995) mRNA stability in mammalian cells, *Microbiol. Rev*. 59: 423-450.

Rousseau F, Chevalier S, Guillet C, Ravon E, Diveu C, Froger J, Barbier F, Grimaud L, Gascan H (2008) Ciliary neurotrophic factor, cardiotrophin-like cytokine and neuropoietin share a conserved binding site on the ciliary neurotrophic factor receptor alpha chain. *J Biol Chem* 283: 30341-50.

Ruby JG, Jan CH, Bartel DP (2007) Intronic microRNA precursors that bypass Drosha processing. *Nature*. 448: 83-86.

Saha S, Chakraborty A, Sengupta S (2015) Stabilization of Oncostatin-M mRNA by binding of Nucleolin to a GC-rich element in its 3'UTR. Accepted for publication in *Journal of Cellular Biochemistry*.

Schluns KS, Cook JE, Le PT (1997) TGF-beta differentially modulates epidermal growth factor-mediated increases in leukemia-inhibitory factor, IL-6, IL-1 alpha, and IL-1 beta in human thymic epithelial cells. *J Immunol*. 158 (6):2704-12.

- Schoenberg DR, Maquat LE (2012) Regulation of cytoplasmic mRNA decay. *Nat Rev Genet* 13:246-259.
- Selbach M, Schwanhaussner B, Thierfelder N, Fang Z, Khanin R, Rajewsky N (2008) Widespread changes in protein synthesis induced by microRNAs. *Nature*. 455:58-63.
- Sengupta TK, Bandyopadhyay S, Fernandes DJ, Spicer EK (2004) Identification of nucleolin as an AU-rich element binding protein involved in bcl-2 RNA stabilization. *J. Biol. Chem.* 279: 10855-10863.
- Serafini PC, Silva ID, Smith GD, Motta EL, Rocha AM, Baracat EC (2009) Endometrial claudin-4 and leukemia inhibitory factor are associated with assisted reproduction outcome. *Reprod Biol Endocrinol* (2009) 7: 30.
- Sessa WC (2011) MicroRNA regulation of cardiovascular functions. *Arterioscler Thromb Vasc Biol.* 31: 2369.
- Shatkin A J, Manley JL (2000). The ends of the affair: capping and polyadenylation. *Nat Struct Biol* 7:838-842.
- Shen V, Kiledjian M (2006) A view to a kill: structure of the RNA exosome. *Cell.* 127:1093-5.
- Shin JE, Park SH, Jang YK (2011) Epigenetic up-regulation of leukemia inhibitory factor (LIF) gene during the progression to breast cancer. *Mol Cells.* 31(2):181-9.
- Simpson RJ, Hilton DJ, Nice EC, Rubira MR, Metcalf D, Gearing DP, Gough NM, Nicola NA (1988) Structural characterization of a murine myeloid leukaemia inhibitory factor. *Eur J Biochem.* 175(3):541-7.
- Sims NA, Johnson RW (2012) Leukemia inhibitory factor: a paracrine mediator of bone metabolism, *Growth Factors* 30: 76–87.
- Sims NA, Walsh NC (2010) GP130 cytokines and bone remodeling in health and disease. *BMB Rep* 43(8):513-23.
- Singer RH, Penman S (1973) Messenger RNA in HeLa cells: kinetics of formation and decay, *J. Mol. Biol.* 78 : 321–334.

Singh K, Laughlin J, Kosinski PA, Covey LR (2004) Nucleolin Is a Second Component of the CD154 mRNA Stability Complex That Regulates mRNA Turnover in Activated T Cells. *J. Immunol*, 173: 976 - 985.

Siomi H, Matunis MJ, Michael WM, Dreyfuss G (1993) The pre-mRNA binding K protein contains a novel evolutionarily conserved motif. *Nucleic Acids Res.* 21: 1193-1198.

Skiniotis G, Lupardus PJ, Martick M, Walz T, Garcia KC (2008) Structural organization of a full-length gp130/LIF-R cytokine receptor transmembrane complex. *Mol Cell.* 31: 737-48.

Small EM, Olson EN (2011) Pervasive roles of microRNAs in cardiovascular biology. *Nature* 469: 336-342.

Smith AG, Nichols J, Robertson M, Rathjen PD (1992) Differentiation inhibiting activity (DIA/LIF) and mouse development. *Dev. Biol.* 151:339–351.

Smith AG (2001) Embryo-derived stem cells: of mice and men. *Annu. Rev. Cell Dev. Biol.* 17: 435–462.

Smith AG, Hooper ML (1987) Buffalo rat liver cells produce a diffusible activity, which inhibits the differentiation of murine embryonal carcinoma and embryonic stem cells. *Dev Biol.* 121: 1-9.

Song JJ, Smith SK, Hannon GJ, Joshua-Tor L (2004) Crystal structure of Argonaute and its implications for RISC slicer activity. *Science.* 305:1434-1437.

Spangenburg EE, Booth FW (2002) Multiple signaling pathways mediate LIF-induced skeletal muscle satellite cell proliferation. *Am J Physiol Cell Physiol* 283: C204-C211.

Spangenburg EE, Booth FW (2006) Leukemia inhibitory factor restores the hypertrophic response to increased loading in the LIF(-/-) mouse. *Cytokine* 34: 125-130.

Stahl J, Gearing DP, Willson TA, Brown MA, King JA, Gough NM (1990) Structural organization of the genes for murine and human leukemia inhibitory factor. Evolutionary conservation of coding and non-coding regions. *J Biol Chem.* 265(15):8833-41.

Stalder L, Heusermann W, Sokol L, Trojer D, Wirz J, Hean J, Fritzsche A, Aeschmann F, Pfanzagl V, Basselet P, Weiler J, Hintersteiner M, Morrissey DV, Meisner-Kober NC (2013)

The rough endoplasmatic reticulum is a central nucleation site of siRNA-mediated RNA silencing. *Embo J.* 32:1115-1127.

Steck T, Giess R, Suetterlin MW, Bolland M, Wiest S, Poehls UG, Dietl J (2004) Leukaemia inhibitory factor (LIF) gene mutations in women with unexplained infertility and recurrent failure of implantation after IVF and embryo transfer. *Eur J Obst Gyn Reprod Biol* 112: 69–73.

Stewart CL (1994) The role of leukemia inhibitory factor (LIF) and other cytokines in regulating implantation in mammals. *Ann N Y Acad Sci* 734: 157–165.

Stewart CL, Kaspar P, Brunet LJ, Bhatt H, Gadi I, Kontgen F, Abbondanzo SJ (1992) Blastocyst implantation depends on maternal expression of leukaemia inhibitory factor. *Nature* 359 : 76–79.

Stoecklin G, Gross B, Ming XF, Moroni C (2003) A novel mechanism of tumor suppression by destabilizing AU-rich growth factor mRNA. *Oncogene*.22: 3554-3561.

Stoecklin G, Tenenbaum SA, Mayo T, Chittur SV, George AD, Baroni TE (2008) Genome-wide analysis identifies interleukin-10 mRNA as target of tristetraprolin. *J Biol Chem.* 283: 11689-99.

Sugiura S, Lahav R, Han J, Kou SY, Banner LR, de Pablo F, Patterson PH (2000) Leukaemia inhibitory factor is required for normal inflammatory responses to injury in the peripheral and central nervous systems in vivo and is chemotactic for macrophages in vitro. *Eur J Neurosci* 12:457-466.

Svitkin YV, Gradi A, Imataka H, Morino S, Sonenberg N (1999) Eukaryotic initiation factor 4GII (eIF4GII), but not eIF4GI, cleavage correlates with inhibition of host cell protein synthesis after human rhinovirus infection. *J Virol.* 73: 3467-3472.

Szekeres-Bartho J, Wilczynski JR, Basta P, Kalinka J (2008) Role of progesterone and progestin therapy in threatened abortion and preterm labour. *Front Biosci* 13: 1981-90.

Taga T, Kishimoto T. Gp130 and the interleukin-6 family of cytokines (1997) *Annu Rev Immunol.* 15: 797-819.

BIBLIOGRAPHY

- Tahbaz N, Kolb FA, Zhang H, Jaronczyk K, Filipowicz W, Hobman TC (2004) Characterization of the interactions between mammalian PAZ PIWI domain proteins and Dicer. *EMBO Rep.*5:189-194.
- Tajrishi MM, Tuteja R, Tuteja N (2011) Nucleolin: The most abundant multifunctional phosphoprotein of nucleolus. *Commun Integr Biol.* 4: 267-275.
- Takeda K, Iwamoto S, Sugimoto H, Takuma T, Kawatani N, Noda M, Masaki A, Morise H, Arimura H, Konno K (1986) Identity of differentiation inducing factor and tumour necrosis factor. *Nature.*323 (6086):338-40.
- Tanaka T, Morita E, Mihara, S Kanno M, Yamamoto S (2001) Identification of leukemia inhibitory factor as a potent mast cell growth-enhancing factor produced by mouse keratinocyte cell line, KCMH-1. *Arch Dermatol Res* 293:18-25.
- Taupin JL, Pitard V, Dechanet J, Miossec V, Gualde N, Moreau JF. Leukemia inhibitory factor: part of a large ingathering family (1998) *Int Rev Immunol* 16: 397-426.
- Tengku-Muhammad TS, Hughes TR, Cryer A, Ramji DP (1996) Differential regulation of lipoprotein lipase in the macrophage J774.2 cell line by cytokines. *Cytokine* 8(7):525-33.
- Tenhuberg S, Schuster B, Zhu L, Scheller J, Kallen KJ, Rose-John S (2006) gp130 dimerization in the absence of ligand: Preformed cytokine receptor complexes. *Biochem Biophys Res Commun* 2006; 346: 649-57.
- Tillmar L, Carlsson C, Welsh N (2002) Control of insulin mRNA stability in rat pancreatic islets. Regulatory role of a 3'-untranslated region pyrimidine-rich sequence. *J Biol Chem.* 277:1099-106.
- Tomida M, Yamamoto-Yamaguchi Y, Hozumi M (1984) "Purification of a factor inducing differentiation of mouse myeloid leukemic M1 cells from conditioned medium of mouse fibroblast L929 cells." *J Biol Chem.* 259(17):10978-82.
- Tomida M, Yamamoto-Yamaguchi Y, Hozumi M (1984) Characterization of a factor inducing differentiation of mouse myeloid leukemic cells purified from conditioned medium of mouse Ehrlich ascites tumor cells. *FEBS Lett.* 178 (2):291-6.

- Tomida M, Yoshida U, Mogi C, Maruyama M, Goda H, Hatta Y, Inoue K (2001) Leukaemia inhibitory factor and interleukin 6 inhibit secretion of prolactin and growth hormone by rat pituitary MtT/SM cells. *Cytokine* 14:202-207.
- Uchida N, Hoshino S, Imataka H, Sonenberg N, Katada T (2002) A novel role of the mammalian GSPT/eRF3 associating with poly(A)-binding protein in Cap/Poly(A)-dependent translation. *J Biol Chem.* 277: 50286-50292.
- Vasudevan S, Steitz JA (2007) AU-rich-element-mediated upregulation of translation by FXR1 and Argonaute 2. *Cell.* 128(6): 1105-18.
- Viallard JF, Taupin JL, Miossec V, Pellegrin JL, Moreau BL (1999) Analysis of interleukin-6, interleukin-10 and leukemia inhibitory factor (LIF) production by peripheral blood cells from patients with systemic lupus erythematosus identifies LIF as a potential marker of disease activity. *Eur Cytokine Netw*10: 17-24.
- Vickers KC, Palmisano BT, Shoucri BM, Shamburek RD, Remaley AT (2011) MicroRNAs are transported in plasma and delivered to recipient cells by high-density lipoproteins. *Nat Cell Biol.* 13:423-433.
- Vlasova IA, Bohjanen PR (2008) Posttranscriptional regulation of gene networks by GU-rich elements and CELF proteins. *RNA Biol.* 5: 201-7.
- Vlotides G, Zitzmann K, Stalla GK, Auernhammer CJ (2004) Novel neurotrophin-1/B cell-stimulating factor-3 (NNT-1/BSF-3)/cardiotrophin-like cytokine (CLC)-a novel gp130 cytokine with pleiotropic functions. *Cytokine Growth Factor Rev* 15: 325-36.
- Wagers AJ and Conboy IM (2005) Cellular and molecular signatures of muscle regeneration: current concepts and controversies in adult myogenesis. *Cell* 122: 659-667.
- Waggoner SA, Liebhaber SA (2003) Identification of mRNAs associated with alphaCP2-containing RNP complexes. *Mol Cell Biol.* 23: 7055-7067.
- Waggoner SA, Liebhaber SA (2003) Regulation of alpha-globin mRNA stability. *Exp Biol Med (Maywood).* 228: 387-395.
- Wahle E, Rügsegger U (1999) 3'-End processing of pre-mRNA in eukaryotes. *FEMS Microbiol Rev.* 23: 277-295.

- Wang S, Aurora AB, Johnson BA, Qi X, McAnally J, Hill JA, Richardson JA, Bassel-Duby R, Olson EN (2008). The endothelial-specific microRNA miR-126 governs vascular integrity and angiogenesis. *Dev Cell*. 15: 261-271.
- Wang D, Zhang Z, O'Loughlin E, Lee T, Houel S, O'Carroll D, Tarakhovsky A, Ahn NG, Yi R (2012). Quantitative functions of Argonaute proteins in mammalian development. *Genes Dev*. 26: 693-704.
- Wang J, Wang B, Bi J, Zhang C. (2010) Cytoplasmic HuR expression correlates with angiogenesis, lymphangiogenesis, and poor outcome in lung cancer. *Med Onco*. 28: 577–585.
- Wang S, Zhang J, Theel S, Barb JJ, Munson PJ, Danner R (2006) Nitric oxide activation of Erk1/2 regulates the stability and translation of mRNA transcripts containing CU-rich elements. *Nucleic Acids Res*. 34: 3044-56.
- Wang SA, Li HY, Hsu TI, Chen SH, Wu CJ, Chang WC, Hung JJ (2011) Heat shock protein 90 stabilizes nucleolin to increase mRNA stability in mitosis. *Biol. Chem*. 286: 43816-43829.
- Wang W, Furneaux H, Cheng H, Caldwell MC, Hutter D, Liu Y, Holbrook N, Gorospe M (2000) HuR regulates p21 mRNA stabilization by UV light. *Mol Cell Biol*. 20:760-769.
- Wang Z, Day N, Trifillis P, Kiledjian M (1999) An mRNA stability complex functions with poly(A)-binding protein to stabilize mRNA in vitro. *Mol Cell Biol*. 19: 4552-4560.
- Wang Z, Kiledjian M (2000) Identification of an erythroid-enriched endoribonuclease activity involved in specific mRNA cleavage. *Embo J*. 19: 295-305.
- Wang Z, Kiledjian M (2000) The poly(A)-binding protein and an mRNA stability protein jointly regulate an endoribonuclease activity. *Mol Cell Biol*. 20: 6334-6341.
- Wang Z, Kiledjian M (2001) Functional link between the mammalian exosome and mRNA decapping. *Cell*. 107:751-62.
- Weber MA, Schnyder-Candrian S, Schnyder B, Quesniaux V, Poli V, Stewart CL (2005) Endogenous leukemia inhibitory factor attenuates endotoxin response. *Lab. Investig*. 85: 276–284.
- Wightman B, Ha I, Ruvkun G (1993) Posttranscriptional regulation of the heterochronic gene *lin-14* by *lin-4* mediates temporal pattern formation in *C. elegans*. *Cell*. 75: 855-862.

- Williams RL, Hilton DJ, Pease S, Willson TA, Stewart CL, Gearing DP, Wagner EF, Metcalf D, Nicola NA, Gough NM (1988) Myeloid leukaemia inhibitory factor maintains the developmental potential of embryonic stem cells. *Nature* 336:684-687.
- Willson TA, Metcalf D, Gough NM (1992) Cross-species comparison of the sequence of the leukaemia inhibitory factor gene and its protein. *Eur J Biochem.* 204(1):21-30.
- Wilusz CJ, Wormington M, Peltz SW (2001) The cap-to-tail guide to mRNA turnover. *Nat. Rev. Mol. Cell Biol.* 2: 237–246.
- Wilusz CJ, Wormington M, Peltz SW (2001) The cap-to-tail guide to mRNA turnover, *Nat. Rev. Mol. Cell Biol.* 2: 237–246.
- Wu X, Brewer G (2012) The regulation of mRNA stability in mammalian cells: 2.0. *Gene.* 500(1):10-21.
- Yang J, Blum A, Novak T, Levinson R, Lai E, Barasch J (2002) An epithelial precursor is regulated by the ureteric bud and by the renal stroma. *Dev Biol* 246:296-310.
- Yang JS, Lai EC (2011) Alternative miRNA biogenesis pathways and the interpretation of core miRNA pathway mutants. *Mol Cell.* 43:892-903.
- Yang JS, Maurin T, Robine N, Rasmussen KD, Jeffrey KL, Chandwani R, Papapetrou EL, Sadelain M, O'Carroll D, Lai EC (2010) Conserved vertebrate mir-451 provides a platform for Dicer-independent, Ago2-mediated microRNA biogenesis. *Proc Natl Acad Sci USA.* 107:15163-15168.
- Young LE, Moore AE, Sokol L, Meisner-Kober N, Dixon DA (2012) The mRNA stability factor HuR inhibits microRNA-16 targeting of COX-2. *Mol Cancer Res.* 10:167-180.
- Yu Y, Wang Y, Niu Y, Fu L, Chin E, Yu C (2015) Leukemia Inhibitory Factor attenuates renal fibrosis through Stat3-miR-29c. *Am J Physiol Renal Physiol.* (ahead of print)
- Zhang J, Tsapralis G, Bowden GT (2008) Nucleolin Stabilizes Bcl-XL Messenger RNA in Response to UVA Irradiation. *Cancer Res.* 68: 1046-1054.
- Zhang Y, Bhatia D, Xia H, Castranova V, Shi X, Chen F (2006) Nucleolin links to arsenic-induced stabilization of GADD45{alpha} mRNA. *Nucleic Acids Res.* 34: 485 - 495.

BIBLIOGRAPHY

Zhao T, Li G, Mi S, Li S, Hannon GJ, Wang XJ, Qi Y (2007) A complex system of small RNAs in the unicellular green alga *Chlamydomonas reinhardtii*. *Genes Dev.* 21:1190-1203.

Zhou J, Li JY, Nguyen P, Wang KC, Weiss A, Kuo YC, Chiu JJ, Shyy JY, Chien S (2013) Regulation of Vascular Smooth Muscle Cell Turnover by Endothelial Cell-secreted MicroRNA-126: Role of Shear Stress. *Circ Res.* 113(1):40-51.

Zigmond RE (2012) gp130 cytokines are positive signals triggering changes in gene expression and axon outgrowth in peripheral neurons following injury. *Front Mol Neurosci.* 4:62. Epub 2012 Jan 20.

Zouein FA, Kurdi M, Booz GW (2013) LIF and the heart: just another brick in the wall? *Eur Cytokine Netw.* 24(1):11-9.

Zucal C, D'Agostino V, Loffredo R, Mantelli B, NatthakanThongon, Lal P, Latorre E, Provenzani A (2015) Targeting the multifaceted HuR protein, benefits and caveats. *Curr Drug Targets.* 16(5):499-515.