

References

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- Bailey, Alexis S., Pedro J. Batista, Rebecca S. Gold, Y. Grace Chen, Dirk G. de Rooij, Howard Y. Chang, and Margaret T. Fuller. 2017. “The Conserved RNA Helicase YTHDC2 Regulates the Transition from Proliferation to Differentiation in the Germline.” *ELife* 6.
- Batista, Pedro J., Benoit Molinie, Jinkai Wang, Kun Qu, Jiajing Zhang, Lingjie Li, Donna M. Bouley, Ernesto Lujan, Bahareh Haddad, Kaveh Daneshvar, Ava C. Carter, Ryan A. Flynn, Chan Zhou, Kok Seong Lim, Peter Dedon, Marius Wernig, Alan C. Mullen, Yi Xing, Cosmas C. Giallourakis, and Howard Y. Chang. 2014. “M6A RNA Modification Controls Cell Fate Transition in Mammalian Embryonic Stem Cells.” *Cell Stem Cell* 15(6):707–19.
- Benedict, Christian, Josefin A. Jacobsson, Elina Rönnemaa, Markus Sällman-Almén, Samantha Brooks, Bernd Schultes, Robert Fredriksson, Lars Lannfelt, Lena Kilander, and Helgi B. Schiöth. 2011. “The Fat Mass and Obesity Gene Is Linked to Reduced Verbal Fluency in Overweight and Obese Elderly Men.” *Neurobiology of Aging* 32(6):1159.e1-1159.e5.
- Van Berg, Linda Den, Henriette Delemarre Van De Waal, Joan C. Han, Bauke Ylstra, Paul Eijk, Maria Nesterova, Peter Heutink, and Constantine A. Stratakis. 2010. “Investigation of a Patient with a Partial Trisomy 16q Including the Fat Mass and Obesity Associated Gene (FTO): Fine Mapping and FTO Gene Expression Study.” *American Journal of Medical Genetics, Part A* 152(3):630–37.
- Bodi, Zsuzsanna, Andrew Bottley, Nathan Archer, Sean T. May, and Rupert G. Fray. 2015. “Yeast M6A Methylated MRNAs Are Enriched on Translating Ribosomes during Meiosis, and under Rapamycin Treatment.” *PLoS ONE* 10(7).
- Braak, Heiko, Kelly Del Tredici, Udo Rüb, Rob A. I. De Vos, Ernst N. H. Jansen Steur, and Eva Braak. 2003. “Staging of Brain Pathology Related to Sporadic Parkinson’s Disease.” *Neurobiology of Aging* 24(2):197–211.
- Chang, Mengqi, Hongyi Lv, Weilong Zhang, Chunhui Ma, Xue He, Shunli Zhao, Zhi Wei Zhang, Yi Xin Zeng, Shuhui Song, Yamei Niu, and Wei Min Tong. 2017. “Region-Specific RNA M6A Methylation Represents a New Layer of Control in the Gene Regulatory Network in the Mouse Brain.” *Open Biology* 7(9).

- Chen, Xuechai, Chunyu Yu, Minjun Guo, Xiaotong Zheng, Sakhawat Ali, Hua Huang, Lihua Zhang, Shensen Wang, Yinghui Huang, Shuyan Qie, and Juan Wang. 2019. "Down-Regulation of M6A mRNA Methylation Is Involved in Dopaminergic Neuronal Death." *ACS Chemical Neuroscience* 10(5):2355–63.
- Choe, Junho, Shuibin Lin, Wencai Zhang, Qi Liu, Longfei Wang, Julia Ramirez-Moya, Peng Du, Wantae Kim, Shaojun Tang, Piotr Sliz, Pilar Santisteban, Rani E. George, William G. Richards, Kwok Kin Wong, Nicolas Locker, Frank J. Slack, and Richard I. Gregory. 2018. "MRNA Circularization by METTL3–EIF3h Enhances Translation and Promotes Oncogenesis." *Nature* 561(7724):556–60.
- Choi, Junhong, Ka Weng Jeong, Hasan Demirci, Jin Chen, Alexey Petrov, Arjun Prabhakar, Seán E. O’Leary, Dan Dominissini, Gideon Rechavi, S. Michael Soltis, Mans Ehrenberg, and Joseph D. Puglisi. 2016. "N6-Methyladenosine in MRNA Disrupts TRNA Selection and Translation-Elongation Dynamics." *Nature Structural and Molecular Biology* 23(2):110–15.
- Choudhry, Zia, Sarojini M. Sengupta, Natalie Grizenko, Geeta A. Thakur, Marie Eve Fortier, Norbert Schmitz, and Ridha Joobar. 2013. "Association between Obesity-Related Gene FTO and ADHD." *Obesity* 21(12).
- Desrosiers, R., K. Friderici, and F. Rottman. 1974. "Identification of Methylated Nucleosides in Messenger RNA from Novikoff Hepatoma Cells." *Proceedings of the National Academy of Sciences of the United States of America* 71(10):3971–75.
- Dixit, Deobrat, Qi Xie, Jeremy N. Rich, and Jing Crystal Zhao. 2017. "Messenger RNA Methylation Regulates Glioblastoma Tumorigenesis." *Cancer Cell* 31(4):474–75.
- Dominissini, Dan, Sharon Moshitch-Moshkovitz, Schraga Schwartz, Mali Salmon-Divon, Lior Ungar, Sivan Osenberg, Karen Cesarkas, Jasmine Jacob-Hirsch, Ninette Amariglio, Martin Kupiec, Rotem Sorek, and Gideon Rechavi. 2012. "Topology of the Human and Mouse M6A RNA Methylomes Revealed by M6A-Seq." *Nature* 485(7397):201–6.
- Du, Tingfu, Shuquan Rao, Lin Wu, Ning Ye, Zeyue Liu, Huiling Hu, Jianbo Xiu, Yan Shen, and Qi Xu. 2015. "An Association Study of the M6A Genes with Major Depressive Disorder in Chinese Han Population." *Journal of Affective Disorders* 183:279–86.

- Engel, Mareen, Carola Eggert, Paul M. Kaplick, Matthias Eder, Simone Röh, Lisa Tietze, Christian Namendorf, Janine Arloth, Peter Weber, Monika Rex-Haffner, Shay Geula, Mira Jakovcevski, Jacob H. Hanna, Dena Leshkowitz, Manfred Uhr, Carsten T. Wotjak, Mathias V. Schmidt, Jan M. Deussing, Elisabeth B. Binder, and Alon Chen. 2018. "The Role of M6A/m-RNA Methylation in Stress Response Regulation." *Neuron* 99(2):389-403.e9.
- Faraone, Stephen V. and Eric Mick. 2010. "Molecular Genetics of Attention Deficit Hyperactivity Disorder." *Psychiatric Clinics of North America* 33(1):159–80.
- Garcia-Campos, Miguel Angel, Sarit Edelheit, Ursula Toth, Modi Safra, Ran Shachar, Sergey Viukov, Roni Winkler, Ronit Nir, Lior Lasman, Alexander Brandis, Jacob H. Hanna, Walter Rossmanith, and Schraga Schwartz. 2019. "Deciphering the 'M6A Code' via Antibody-Independent Quantitative Profiling." *Cell* 178(3):731-747.e16.
- Gershon, Jonathan. 2002. "A Meta-Analytic Review of Gender Differences in ADHD." *Journal of Attention Disorders* 5(3):143–54.
- Geula, Shay, Sharon Moshitch-Moshkovitz, Dan Dominissini, Abed Al Fatah Mansour, Nitzan Kol, Mali Salmon-Divon, Vera Hershkovitz, Eyal Peer, Nofar Mor, Yair S. Manor, Moshe Shay Ben-Haim, Eran Eyal, Sharon Yunger, Yishay Pinto, Diego Adhemar Jaitin, Sergey Viukov, Yoach Rais, Vladislav Krupalnik, Elad Chomsky, Mirie Zerbib, Itay Maza, Yoav Rechavi, Rada Massarwa, Suhair Hanna, Ido Amit, Erez Y. Levanon, Ninette Amariglio, Noam Stern-Ginossar, Noa Novershtern, Gideon Rechavi, and Jacob H. Hanna. 2015. "M6A mRNA Methylation Facilitates Resolution of Naïve Pluripotency toward Differentiation." *Science* 347(6225):1002–6.
- Han, Min, Zhen Liu, Yingying Xu, Xiangtian Liu, Dewei Wang, Fan Li, Yun Wang, and Jianzhong Bi. 2020. "Abnormality of M6A mRNA Methylation Is Involved in Alzheimer's Disease." *Frontiers in Neuroscience* 14.
- Hausmann, Irmgard U., Zsuzsanna Bodi, Eugenio Sanchez-Moran, Nigel P. Mongan, Nathan Archer, Rupert G. Fray, and Matthias Soller. 2016. "M6 A Potentiates Sxl Alternative Pre-MRNA Splicing for Robust Drosophila Sex Determination." *Nature* 540(7632):301–4.
- Henstridge, Christopher M., Eleanor Pickett, and Tara L. Spires-Jones. 2016. "Synaptic Pathology: A Shared Mechanism in Neurological Disease." *Ageing Research Reviews* 28:72–84.

- Hess, Martin E., Simon Hess, Kate D. Meyer, Linda A. W. Verhagen, Linda Koch, Hella S. Brönneke, Marcelo O. Dietrich, Sabine D. Jordan, Yogesh Saletore, Olivier Elemento, Bengt F. Belgardt, Thomas Franz, Tamas L. Horvath, Ulrich Rütter, Samie R. Jaffrey, Peter Kloppenburg, and Jens C. Brüning. 2013. “The Fat Mass and Obesity Associated Gene (Fto) Regulates Activity of the Dopaminergic Midbrain Circuitry.” *Nature Neuroscience* 16(8):1042–48.
- Ho, April J., Jason L. Stein, Xue Hua, Suh Lee, Derrek P. Hibar, Alex D. Leow, Ivo D. Dinov, Arthur W. Toga, Andrew J. Saykin, Li Shen, Tatiana Foroud, Nathan Pankratz, Matthew J. Huentelman, David W. Craig, Jill D. Gerber, April N. Allen, Jason J. Corneveaux, Dietrich A. Stephan, Charles S. DeCarli, Bryan M. DeChairo, Steven G. Potkin, Clifford R. Jack, Michael W. Weiner, Cyrus A. Raji, Oscar L. Lopez, James T. Becker, Owen T. Carmichael, and Paul M. Thompson. 2010. “A Commonly Carried Allele of the Obesity-Related FTO Gene Is Associated with Reduced Brain Volume in the Healthy Elderly.” *Proceedings of the National Academy of Sciences of the United States of America* 107(18):8404–9.
- Hsu, Phillip J., Yunfei Zhu, Honghui Ma, Yueshuai Guo, Xiaodan Shi, Yuanyuan Liu, Meijie Qi, Zhike Lu, Hailing Shi, Jianying Wang, Yiwei Cheng, Guanzheng Luo, Qing Dai, Mingxi Liu, Xuejiang Guo, Jiahao Sha, Bin Shen, and Chuan He. 2017. “Ythdc2 Is an N6-Methyladenosine Binding Protein That Regulates Mammalian Spermatogenesis.” *Cell Research* 27(9):1115–27.
- Jain, Devanshi, M. Rhyon Puno, Cem Meydan, Nathalie Lailier, Christopher E. Mason, Christopher D. Lima, Kathryn V. Anderson, and Scott Keeney. 2018. “Ketu Mutant Mice Uncover an Essential Meiotic Function for the Ancient RNA Helicase YTHDC2.” *ELife* 7.
- Jason T Fong, Ryan T. Pitman. 2013. “FTO Knockdown Decreases Phosphorylation of Tau in Neuronal Cells; A Potential Model Implicating the Association of FTO with Alzheimer’s Disease.” *Journal of Alzheimer’s Disease & Parkinsonism* 03(04).
- Jia, Guifang, Ye Fu, Xu Zhao, Qing Dai, Guanqun Zheng, Ying Yang, Chengqi Yi, Tomas Lindahl, Tao Pan, Yun Gui Yang, and Chuan He. 2011. “N6-Methyladenosine in Nuclear RNA Is a Major Substrate of the Obesity-Associated FTO.” *Nature Chemical Biology* 7(12):885–87.

- Kan, Lijuan, Anya V. Grozhik, Jeffrey Vedanayagam, Deepak P. Patil, Nan Pang, Kok Seong Lim, Yi Chun Huang, Brian Joseph, Ching Jung Lin, Vladimir Despic, Jian Guo, Dong Yan, Shu Kondo, Wu Min Deng, Peter C. Dedon, Samie R. Jaffrey, and Eric C. Lai. 2017. "The m⁶A Pathway Facilitates Sex Determination in *Drosophila*." *Nature Communications* 8.
- Ke, Shengdong, Amy Pandya-Jones, Yuhki Saito, John J. Fak, Cathrine Broberg Vågbo, Shay Geula, Jacob H. Hanna, Douglas L. Black, James E. Darnell, and Robert B. Darnell. 2017. "M6A mRNA Modifications Are Deposited in Nascent Pre-mRNA and Are Not Required for Splicing but Do Specify Cytoplasmic Turnover." *Genes and Development* 31(10):990–1006.
- Keller, Lina, Weili Xu, Hui Xin Wang, Bengt Winblad, Laura Fratiglioni, and Caroline Graff. 2011. "The Obesity Related Gene, FTO, Interacts with APOE, and Is Associated with Alzheimer's Disease Risk: A Prospective Cohort Study." *Journal of Alzheimer's Disease* 23(3):461–69.
- Kobayashi, Masatoshi, Mitsuru Ohsugi, Takayoshi Sasako, Motoharu Awazawa, Toshihiro Umehara, Aya Iwane, Naoki Kobayashi, Yukiko Okazaki, Naoto Kubota, Ryo Suzuki, Hironori Waki, Keiko Horiuchi, Takao Hamakubo, Tatsuhiko Kodama, Seiichiro Aoe, Kazuyuki Tobe, Takashi Kadowaki, and Kohjiro Ueki. 2018. "The RNA Methyltransferase Complex of WTAP, METTL3, and METTL14 Regulates Mitotic Clonal Expansion in Adipogenesis." *Molecular and Cellular Biology* 38(16).
- Krain, Amy L. and F. Xavier Castellanos. 2006. "Brain Development and ADHD." *Clinical Psychology Review* 26(4):433–44.
- Kretschmer, Jens, Harita Rao, Philipp Hackert, Katherine E. Sloan, Claudia Höbartner, and Markus T. Bohnsack. 2018. "The M6A Reader Protein YTHDC2 Interacts with the Small Ribosomal Subunit and the 5'-3' Exoribonuclease XRN1." *Rna* 24(10):1339–50.
- Krug, R. M., M. A. Morgan, and A. J. Shatkin. 1976. "Influenza Viral mRNA Contains Internal N⁶-Methyladenosine and 5'-Terminal 7-Methylguanosine in Cap Structures." *Journal of Virology* 20(1):45–53.

- Lasman, Lior, Vladislav Krupalnik, Sergey Viukov, Nofar Mor, Alejandro Aguilera-Castrejon, Dan Schneir, Jonathan Bayerl, Orel Mizrahi, Shani Peles, Shadi Tawil, Shashank Sathe, Aharon Nachshon, Tom Shani, Mirie Zerbib, Itay Kilimnik, Stefan Aigner, Archana Shankar, Jasmine R. Mueller, Schraga Schwartz, Noam Stern-Ginossar, Gene W. Yeo, Shay Geula, Noa Novershtern, and Jacob H. Hanna. 2020. "Context-Dependent Compensation between Functional Ythdf M6A Reader Proteins." *Genes and Development* 34(19–20):1373–91.
- Lee, Amy S. Y., Philip J. Kranzusch, and Jamie H. D. Cate. 2015. "EIF3 Targets Cell-Proliferation Messenger RNAs for Translational Activation or Repression." *Nature* 522(7554):111–14.
- Lee, Jeannie T. 2009. "Lessons from X-Chromosome Inactivation: Long ncRNA as Guides and Tethers to the Epigenome." *Genes and Development* 23(16):1831–42.
- Lence, Tina, Junaid Akhtar, Marc Bayer, Katharina Schmid, Laura Spindler, Cheuk Hei Ho, Nastasja Kreim, Miguel A. Andrade-Navarro, Burkhard Poeck, Mark Helm, and Jean Yves Roignant. 2016. "M6A Modulates Neuronal Functions and Sex Determination in *Drosophila*." *Nature* 540(7632):242–47.
- Li, Ang, Yu Sheng Chen, Xiao Li Ping, Xin Yang, Wen Xiao, Ying Yang, Hui Ying Sun, Qin Zhu, Poonam Baidya, Xing Wang, Devi Prasad Bhattarai, Yong Liang Zhao, Bao Fa Sun, and Yun Gui Yang. 2017. "Cytoplasmic m6A Reader YTHDF3 Promotes mRNA Translation." *Cell Research* 27(3):444–47.
- Li, Huajie, Yi Ren, Keshi Mao, Fei Hua, Yilin Yang, Ning Wei, Chunxian Yue, Dawen Li, and Hao Zhang. 2018. "FTO Is Involved in Alzheimer's Disease by Targeting TSC1-MTOR-Tau Signaling." *Biochemical and Biophysical Research Communications* 498(1):234–39.
- Li, Liping, Liqun Zang, Feiran Zhang, Junchen Chen, Hui Shen, Liqi Shu, Feng Liang, Chunyue Feng, Deng Chen, Huikang Tao, Tianlei Xu, Ziyi Li, Yunhee Kang, Hao Wu, Lichun Tang, Pumin Zhang, Peng Jin, Qiang Shu, and Xuekun Li. 2017. "Fat Mass and Obesity-Associated (FTO) Protein Regulates Adult Neurogenesis." *Human Molecular Genetics* 26(13):2398–2411.
- Lin, Shuibin, Junho Choe, Peng Du, Robinson Triboulet, and Richard I. Gregory. 2016. "The M6A Methyltransferase METTL3 Promotes Translation in Human Cancer Cells." *Molecular Cell* 62(3):335–45.

- Liu, Jianzhao, Yanan Yue, Dali Han, Xiao Wang, Y. Fu, Liang Zhang, Guifang Jia, Miao Yu, Zhike Lu, Xin Deng, Qing Dai, Weizhong Chen, and Chuan He. 2014. "A METTL3-METTL14 Complex Mediates Mammalian Nuclear RNA N6-Adenosine Methylation." *Nature Chemical Biology* 10(2):93–95.
- Liu, Jun, Guanzheng Luo, Juan Sun, Lili Men, Honggang Ye, Chuan He, and Decheng Ren. 2019. "METTL14 Is Essential for β -Cell Survival and Insulin Secretion." *Biochimica et Biophysica Acta - Molecular Basis of Disease* 1865(9):2138–48.
- Liu, Nian, Qing Dai, Guanqun Zheng, Chuan He, Marc Parisien, and Tao Pan. 2015. "N6 - Methyladenosine-Dependent RNA Structural Switches Regulate RNA-Protein Interactions." *Nature* 518(7540):560–64.
- Louloupi, Annita, Evgenia Ntini, Thomas Conrad, and Ulf Andersson Vang Ørom. 2018. "Transient N-6-Methyladenosine Transcriptome Sequencing Reveals a Regulatory Role of M6A in Splicing Efficiency." *Cell Reports* 23(12):3429–37.
- Luo, Shukun and Liang Tong. 2014. "Molecular Basis for the Recognition of Methylated Adenines in RNA by the Eukaryotic YTH Domain." *Proceedings of the National Academy of Sciences of the United States of America* 111(38):13834–39.
- Masters, C. L., G. Simms, N. A. Weinman, G. Multhaup, B. L. McDonald, and K. Beyreuther. 1985. "Amyloid Plaque Core Protein in Alzheimer Disease and Down Syndrome." *Proceedings of the National Academy of Sciences of the United States of America* 82(12):4245–49.
- Mauer, Jan, Xiaobing Luo, Alexandre Blanjoie, Xinfu Jiao, Anya V. Grozhik, Deepak P. Patil, Bastian Linder, Brian F. Pickering, Jean Jacques Vasseur, Qiuying Chen, Steven S. Gross, Olivier Elemento, Françoise Debart, Megerditch Kiledjian, and Samie R. Jaffrey. 2017. "Reversible Methylation of M6 Am in the 5' Cap Controls mRNA Stability." *Nature* 541(7637):371–75.
- Mauer, Jan, Miriam Sindelar, Vladimir Despic, Théo Guez, Ben R. Hawley, Jean Jacques Vasseur, Andrea Rentmeister, Steven S. Gross, Livio Pellizzoni, Françoise Debart, Hani Goodarzi, and Samie R. Jaffrey. 2019. "FTO Controls Reversible m 6 Am RNA Methylation during SnRNA Biogenesis." *Nature Chemical Biology* 15(4):340–47.
- *Meyer, Kate D. and Samie R. Jaffrey. 2017. "Rethinking M6A Readers, Writers, and Erasers." *Annual Review of Cell and Developmental Biology* 33:319–42.

- Meyer, Kate D., Yogesh Saletore, Paul Zumbo, Olivier Elemento, Christopher E. Mason, and Samie R. Jaffrey. 2012. "Comprehensive Analysis of mRNA Methylation Reveals Enrichment in 3' UTRs and near Stop Codons." *Cell* 149(7):1635–46.
- Milaneschi, Y., W. Hoogendijk, P. Lips, A. C. Heijboer, R. Schoevers, A. M. Van Hemert, A. T. F. Beekman, J. H. Smit, and B. W. J. H. Penninx. 2014. "The Association between Low Vitamin D and Depressive Disorders." *Molecular Psychiatry* 19(4):444–51.
- Milaneschi, Y., F. Lamers, H. Mbarek, J. J. Hottenga, D. I. Boomsma, and B. W. J. H. Penninx. 2014. "The Effect of FTO Rs9939609 on Major Depression Differs across MDD Subtypes." *Molecular Psychiatry* 19(9):960–62.
- Millichap, J. Gordon. 2008. "Etiologic Classification of Attention-Deficit/Hyperactivity Disorder." *Pediatrics* 121(2).
- Molendijk, M. L., B. A. A. Bus, Ph Spinhoven, B. W. J. H. Penninx, G. Kenis, J. Prickaerts, R. C. Oud. Voshaar, and B. M. Elzinga. 2011. "Serum Levels of Brain-Derived Neurotrophic Factor in Major Depressive Disorder: State-Trait Issues, Clinical Features and Pharmacological Treatment." *Molecular Psychiatry* 16(11):1088–95.
- Patil, Deepak P., Brian F. Pickering, and Samie R. Jaffrey. 2018. "Reading M6A in the Transcriptome: M6A-Binding Proteins." *Trends in Cell Biology* 28(2):113–27.
- Perry, R. P. and D. E. Kelley. 1974. "Existence of Methylated Messenger RNA in Mouse L Cells." *Cell* 1(1):37–42.
- Peters, Thomas, Katrin Ausmeier, and Ulrich R  ther. 1999. "Cloning of Fatso (Fto), a Novel Gene Deleted by the Fused Toes (Ft) Mouse Mutation." *Mammalian Genome* 10(10):983–86.
- Ping, Xiao Li, Bao Fa Sun, Lu Wang, Wen Xiao, Xin Yang, Wen Jia Wang, Samir Adhikari, Yue Shi, Ying Lv, Yu Sheng Chen, Xu Zhao, Ang Li, Ying Yang, Ujwal Dahal, Xiao Min Lou, Xi Liu, Jun Huang, Wei Ping Yuan, Xiao Fan Zhu, Tao Cheng, Yong Liang Zhao, Xinquan Wang, Jannie M. Rendtle. Danielsen, Feng Liu, and Yun Gui Yang. 2014. "Mammalian WTAP Is a Regulatory Subunit of the RNA N6-Methyladenosine Methyltransferase." *Cell Research* 24(2):177–89.

- Poritsanos, Nicole J., Pei San Lew, and Tooru M. Mizuno. 2010. "Relationship between Blood Glucose Levels and Hepatic Fto mRNA Expression in Mice." *Biochemical and Biophysical Research Communications* 400(4):713–17.
- Reitz, Christiane, Giuseppe Tosto, Richard Mayeux, and Jose A. Luchsinger. 2012. "Genetic Variants in the Fat and Obesity Associated (FTO) Gene and Risk of Alzheimer's Disease." *PLoS ONE* 7(12).
- Ries, Ryan J., Sara Zaccara, Pierre Klein, Anthony Olarerin-George, Sim Namkoong, Brian F. Pickering, Deepak P. Patil, Hojoong Kwak, Jun Hee Lee, and Samie R. Jaffrey. 2019. "m6A Enhances the Phase Separation Potential of mRNA." *Nature* 571(7765):424–28.
- Roundtree, Ian A., Guan Zheng Luo, Zijie Zhang, Xiao Wang, Tao Zhou, Yiquang Cui, Jiahao Sha, Xingxu Huang, Laura Guerrero, Phil Xie, Emily He, Bin Shen, and Chuan He. 2017. "YTHDC1 Mediates Nuclear Export of N6-Methyladenosine Methylated MRNAs." *ELife* 6.
- Samaan, Z., S. Anand, X. Zhang, D. Desai, M. Rivera, G. Pare, L. Thabane, C. Xie, H. Gerstein, J. C. Engert, I. Craig, S. Cohen-Woods, V. Mohan, R. Diaz, X. Wang, L. Liu, T. Corre, M. Preisig, Z. Kutalik, S. Bergmann, P. Vollenweider, G. Waeber, S. Yusuf, and D. Meyre. 2013. "The Protective Effect of the Obesity-Associated Rs9939609 A Variant in Fat Mass- and Obesity-Associated Gene on Depression." *Molecular Psychiatry* 18(12):1281–86.
- Shafik, Andrew M., Feiran Zhang, Zhenxing Guo, Qing Dai, Kinga Pajdzik, Yangping Li, Yunhee Kang, Bing Yao, Hao Wu, Chuan He, Emily G. Allen, Ranhui Duan, and Peng Jin. 2021. "N6-Methyladenosine Dynamics in Neurodevelopment and Aging, and Its Potential Role in Alzheimer's Disease." *Genome Biology* 22(1).
- Shen, Fan, Wei Huang, Jing Tao Huang, Jun Xiong, Ying Yang, Ke Wu, Gui Fang Jia, Jinyun Chen, Yu Qi Feng, Bi Feng Yuan, and Song Mei Liu. 2015. "Decreased N6Methyladenosine in Peripheral Blood RNA from Diabetic Patients Is Associated with FTO Expression Rather than ALKBH5." *Journal of Clinical Endocrinology and Metabolism* 100(1):E148–54.
- Shi, Hailing, Xiao Wang, Zhike Lu, Boxuan S. Zhao, Honghui Ma, Phillip J. Hsu, Chang Liu, and Chuan He. 2017. "YTHDF3 Facilitates Translation and Decay of N 6-Methyladenosine-Modified RNA." *Cell Research* 27(3):315–28.

- Shimba, Shigeki, Joseph A. Bokar, Fritz Rottman, and Ram Reddy. 1995. "Accurate and Efficient N-6-Adenosine Methylation in Spliceosomal U6 Small Nuclear RNA by HeLa Cell Extract in Vitro." *Nucleic Acids Research* 23(13):2421–26.
- Śledź, Paweł and Martin Jinek. 2016. "Structural Insights into the Molecular Mechanism of the M6A Writer Complex." *ELife* 5(September).
- Smemo, Scott, Juan J. Tena, Kyoung Han Kim, Eric R. Gamazon, Noboru J. Sakabe, Carlos Gómez-Marín, Ivy Aneas, Flavia L. Credidio, Débora R. Sobreira, Nora F. Wasserman, Ju Hee Lee, Vijitha Puvindran, Davis Tam, Michael Shen, Joe Eun Son, Niki Alizadeh Vakili, Hoon Ki Sung, Silvia Naranjo, Rafael D. Acemel, Miguel Manzanares, Andras Nagy, Nancy J. Cox, Chi Chung Hui, Jose Luis Gomez-Skarmeta, and Marcelo A. Nóbrega. 2014. "Obesity-Associated Variants within FTO Form Long-Range Functional Connections with IRX3." *Nature* 507(7492):371–75.
- Sommer, Steve, Uri Lavi, and James E. Darnell. 1978. "The Absolute Frequency of Labeled N-6-Methyladenosine in HeLa Cell Messenger RNA Decreases with Label Time." *Journal of Molecular Biology* 124(3):487–99.
- Speakman, John R. 2010. "FTO Effect on Energy Demand versus Food Intake." *Nature* 464(7289).
- Stratigopoulos, George, Lisa Cole Burnett, Richard Rausch, Richard Gill, David Barth Penn, Alicja A. Skowronski, Charles A. LeDuc, Anthony J. Lanzano, Pumin Zhang, Daniel R. Storm, Dieter Egli, and Rudolph L. Leibel. 2016. "Hypomorphism of Fto and Rpgrip11 Causes Obesity in Mice." *Journal of Clinical Investigation* 126(5):1897–1910.
- Tang, Chong, Rachel Klukovich, Hongying Peng, Zhuqing Wang, Tian Yu, Ying Zhang, Huili Zheng, Arne Klungland, and Wei Yan. 2017. "ALKBH5-Dependent M6A Demethylation Controls Splicing and Stability of Long 3'-UTR MRNAs in Male Germ Cells." *Proceedings of the National Academy of Sciences of the United States of America* 115(2):E325–33.
- Thalhammer, Armin, Zuzana Bencokova, Rachel Poole, Christoph Loenarz, Julie Adam, Linda O'Flaherty, Johannes Schödel, David Mole, Konstantinos Giaslakitiotis, Christopher J. Schofield, Ester M. Hammond, Peter J. Ratcliffe, and Patrick J. Pollard. 2011. "Human AlkB Homologue 5 Is a Nuclear 2-Oxoglutarate Dependent Oxygenase and a Direct Target of Hypoxia-Inducible Factor 1 α (HIF-1 α)." *PLoS ONE* 6(1).

- Theler, Dominik, Cyril Dominguez, Markus Blatter, Julien Boudet, and Frédéric H. T. Allain. 2014. "Solution Structure of the YTH Domain in Complex with N6-Methyladenosine RNA: A Reader of Methylated RNA." *Nucleic Acids Research* 42(22):13911–19.
- Velders, Fleur P., Jolanda E. de Wit, Pauline W. Jansen, Vincent W. V. Jaddoe, Albert Hofman, Frank C. Verhulst, and Henning Tiemeier. 2012. "FTO at Rs9939609, Food Responsiveness, Emotional Control and Symptoms of ADHD in Preschool Children." *PLoS ONE* 7(11).
- Vogelzangs, N., H. E. Duivis, A. T. F. Beekman, C. Kluft, J. Neuteboom, W. Hoogendijk, J. H. Smit, P. De Jonge, and B. W. J. H. Penninx. 2012. "Association of Depressive Disorders, Depression Characteristics and Antidepressant Medication with Inflammation." *Translational Psychiatry* 2.
- Volkow, Nora D., Gene Jack Wang, Scott H. Kollins, Tim L. Wigal, Jeffrey H. Newcorn, Frank Telang, Joanna S. Fowler, Wei Zhu, Jean Logan, Yeming Ma, Kith Pradhan, Christopher Wong, and James M. Swanson. 2009. "Evaluating Dopamine Reward Pathway in ADHD: Clinical Implications." *JAMA - Journal of the American Medical Association* 302(10):1084–91.
- Vreeburg, Sophie A., Witte J. G. Hoogendijk, Johannes Van Pelt, Roel H. DeRijk, Jolanda C. M. Verhagen, Richard Van Dyck, Johannes H. Smit, Frans G. Zitman, and Brenda W. J. H. Penninx. 2009. "Major Depressive Disorder and Hypothalamic-Pituitary-Adrenal Axis Activity: Results from a Large Cohort Study." *Archives of General Psychiatry* 66(6):617–26.
- Wang, Chen Xin, Guan Shen Cui, Xiuying Liu, Kai Xu, Meng Wang, Xin Xin Zhang, Li Yuan Jiang, Ang Li, Ying Yang, Wei Yi Lai, Bao Fa Sun, Gui Bin Jiang, Hai Lin Wang, Wei Min Tong, Wei Li, Xiu Jie Wang, Yun Gui Yang, and Qi Zhou. 2018. "METTL3-Mediated m⁶A Modification Is Required for Cerebellar Development." *PLoS Biology* 16(6).
- Wang, Jing, Yongqiang Sha, and Tao Sun. 2021. "M⁶A Modifications Play Crucial Roles in Glial Cell Development and Brain Tumorigenesis." *Frontiers in Oncology* 11.
- Wang, Ping, Katelyn A. Doxtader, and Yunsun Nam. 2016. "Structural Basis for Cooperative Function of Mettl3 and Mettl14 Methyltransferases." *Molecular Cell* 63(2):306–17.

- Wang, Xiang, Jing Feng, Yuan Xue, Zeyuan Guan, Delin Zhang, Zhu Liu, Zhou Gong, Qiang Wang, Jinbo Huang, Chun Tang, Tingting Zou, and Ping Yin. 2016. "Structural Basis of N6-Adenosine Methylation by the METTL3-METTL14 Complex." *Nature* 534(7608):575–78.
- Wang, Xiao, Zhike Lu, Adrian Gomez, Gary C. Hon, Yanan Yue, Dali Han, Ye Fu, Marc Parisien, Qing Dai, Guifang Jia, Bing Ren, Tao Pan, and Chuan He. 2014. "N 6-Methyladenosine-Dependent Regulation of Messenger RNA Stability." *Nature* 505(7481):117–20.
- Wang, Xiao, Boxuan Simen Zhao, Ian A. Roundtree, Zhike Lu, Dali Han, Honghui Ma, Xiaocheng Weng, Kai Chen, Hailing Shi, and Chuan He. 2015. "N6-Methyladenosine Modulates Messenger RNA Translation Efficiency." *Cell* 161(6):1388–99.
- Wang, Yang, Yue Li, Julia I. Toth, Matthew D. Petroski, Zhaolei Zhang, and Jing Crystal Zhao. 2014. "N6 -Methyladenosine Modification Destabilizes Developmental Regulators in Embryonic Stem Cells." *Nature Cell Biology* 16(2):191–98.
- Wei, C. M. and B. Moss. 1975. "Methylated Nucleotides Block 5' Terminus of Vaccinia Virus Messenger RNA." *Proceedings of the National Academy of Sciences of the United States of America* 72(1):318–22.
- Wei, Cha Mer, Alan Gershowitz, and Bernard Moss. 1975. "Methylated Nucleotides Block 5' Terminus of HeLa Cell Messenger RNA." *Cell* 4(4):379–86.
- Weingarten, M. D., A. H. Lockwood, S. Y. Hwo, and M. W. Kirschner. 1975. "A Protein Factor Essential for Microtubule Assembly." *Proceedings of the National Academy of Sciences of the United States of America* 72(5):1858–62.
- Wojtas, Magdalena Natalia, Radha Raman Pandey, Mateusz Mendel, David Homolka, Ravi Sachidanandam, and Ramesh S. Pillai. 2017. "Regulation of M6A Transcripts by the 3'→5' RNA Helicase YTHDC2 Is Essential for a Successful Meiotic Program in the Mammalian Germline." *Molecular Cell* 68(2):374-387.e12.
- Xiao, Wen, Samir Adhikari, Ujwal Dahal, Yu Sheng Chen, Ya Juan Hao, Bao Fa Sun, Hui Ying Sun, Ang Li, Xiao Li Ping, Wei Yi Lai, Xing Wang, Hai Li Ma, Chun Min Huang, Ying Yang, Niu Huang, Gui Bin Jiang, Hai Lin Wang, Qi Zhou, Xiu Jie Wang, Yong Liang Zhao, and Yun Gui Yang. 2016. "Nuclear M6A Reader YTHDC1 Regulates MRNA Splicing." *Molecular Cell* 61(4):507–19.

- Xu, Chao, Ke Liu, Hazem Ahmed, Peter Loppnau, Matthieu Schapira, and Jinrong Min. 2015. “Structural Basis for the Discriminative Recognition of N6-Methyladenosine RNA by the Human YT521-B Homology Domain Family of Proteins.” *Journal of Biological Chemistry* 290(41):24902–13.
- Xu, Chao, Xiao Wang, Ke Liu, Ian A. Roundtree, Wolfram Tempel, Yanjun Li, Zhike Lu, Chuan He, and Jinrong Min. 2014. “Structural Basis for Selective Binding of M6A RNA by the YTHDC1 YTH Domain.” *Nature Chemical Biology* 10(11):927–29.
- Xu, Huan, Yulia Dzhashiashvili, Ankeeta Shah, Rejani B. Kunjamma, Yi lan Weng, Benayahu Elbaz, Qili Fei, Joshua S. Jones, Yang I. Li, Xiaoxi Zhuang, Guo li Ming, Chuan He, and Brian Popko. 2020. “M6A mRNA Methylation Is Essential for Oligodendrocyte Maturation and CNS Myelination.” *Neuron* 105(2):293-309.e5.
- Yi, Dandan, Ru Wang, Xianbiao Shi, Lei Xu, Yiminu’Er Yilihamu, and Jianfeng Sang. 2020. “METTL14 promotes the Migration and Invasion of Breast Cancer Cells by Modulating N6-Methyladenosine and Hsa-MiR-146a-5p Expression.” *Oncology Reports* 43(5):1375–86.
- Yoon, Ki Jun, Francisca Rojas Ringeling, Caroline Vissers, Fadi Jacob, Michael Pokrass, Dennisse Jimenez-Cyrus, Yijing Su, Nam Shik Kim, Yunhua Zhu, Lily Zheng, Sunghan Kim, Xinyuan Wang, Louis C. Doré, Peng Jin, Sergi Regot, Xiaoxi Zhuang, Stefan Canzar, Chuan He, Guo li Ming, and Hongjun Song. 2017. “Temporal Control of Mammalian Cortical Neurogenesis by M6A Methylation.” *Cell* 171(4):877-889.e17.
- Zaccara, Sara and Samie R. Jaffrey. 2020. “A Unified Model for the Function of YTHDF Proteins in Regulating M6A-Modified mRNA.” *Cell* 181(7):1582-1595.e18.
- *Zaccara, Sara, Ryan J. Ries, and Samie R. Jaffrey. 2019. “Reading, Writing and Erasing mRNA Methylation.” *Nature Reviews Molecular Cell Biology* 20(10):608–24.
- Zhang, Chuanzhao, Debangshu Samanta, Haiquan Lu, John W. Bullen, Huimin Zhang, Ivan Chen, Xiaoshun He, and Gregg L. Semenza. 2016. “Hypoxia Induces the Breast Cancer Stem Cell Phenotype by HIF-Dependent and ALKBH5-Mediated M6A-Demethylation of NANOG mRNA.” *Proceedings of the National Academy of Sciences of the United States of America* 113(14):E2047–56.

- Zhang, Guoqiang, Hua Huang, Di Liu, Ying Cheng, Xiaoling Liu, Wenxin Zhang, Ruichuan Yin, Dapeng Zhang, Peng Zhang, Jianzhao Liu, Chaoyi Li, Baodong Liu, Yuewan Luo, Yuanxiang Zhu, Ning Zhang, Shunmin He, Chuan He, Hailin Wang, and Dahua Chen. 2015. "N6-Methyladenine DNA Modification in *Drosophila*." *Cell* 161(4):893–906.
- Zhang, Sicong, Boxuan Simen Zhao, Aidong Zhou, Kangyu Lin, Shaoping Zheng, Zhike Lu, Yaohui Chen, Erik P. Sulman, Keping Xie, Oliver Bögl, Sadhan Majumder, Chuan He, and Suyun Huang. 2017. "M6A Demethylase ALKBH5 Maintains Tumorigenicity of Glioblastoma Stem-like Cells by Sustaining FOXM1 Expression and Cell Proliferation Program." *Cancer Cell* 31(4):591-606.e6.
- Zheng, Guanqun, John Arne Dahl, Yamei Niu, Peter Fedorcsak, Chun Min Huang, Charles J. Li, Cathrine B. Vågbø, Yue Shi, Wen Ling Wang, Shu Hui Song, Zhike Lu, Ralph P. G. Bosmans, Qing Dai, Ya Juan Hao, Xin Yang, Wen Ming Zhao, Wei Min Tong, Xiu Jie Wang, Florian Bogdan, Kari Furu, Ye Fu, Guifang Jia, Xu Zhao, Jun Liu, Hans E. Krokan, Arne Klungland, Yun Gui Yang, and Chuan He. 2013. "ALKBH5 Is a Mammalian RNA Demethylase That Impacts RNA Metabolism and Mouse Fertility." *Molecular Cell* 49(1):18–29.
- Zhong, Silin, Hongying Li, Zsuzsanna Bodi, James Button, Laurent Vespa, Michel Herzog, and Rupert G. Fray. 2008. "MTA Is an Arabidopsis Messenger RNA Adenosine Methylase and Interacts with a Homolog of a Sex-Specific Splicing Factor." *Plant Cell* 20(5):1278–88.