

## PURExpress<sup>®</sup> *In Vitro* Protein Synthesis

Ad, O., Hoffman, K. S., Cairns, A. G., Featherston, A. L., Miller, S. J., Söll, D., & Schepartz, A. (2019). Translation of Diverse Aramid- and 1,3-Dicarbonyl-peptides by Wild Type Ribosomes *in Vitro*. *ACS Central Science*. doi:10.1021/acscentsci.9b00460

Alexander, L. M., Goldman, D. H., Wee, L. M., & Bustamante, C. (2019). Non-equilibrium dynamics of a nascent polypeptide during translation suppress its misfolding. *Nature Communications*, 10(1), 2709. doi:10.1038/s41467-019-10647-6

Allen-Benton, M., Findlay, H. E., & Booth, P. J. (2019). Probing membrane protein properties using droplet interface bilayers. *Experimental Biology and Medicine*, 244(8), 709-720. doi:10.1177/1535370219847939

Almutairi, M. M., Svetlov, M. S., Hansen, D. A., Khabibullina, N. F., Klepacki, D., Kang, H. Y., Mankin, A. S. (2017). Co-produced natural ketolides methymycin and pikromycin inhibit bacterial growth by preventing synthesis of a limited number of proteins. *Nucleic Acids Res*, 45(16), 9573-9582. doi:10.1093/nar/gkx673

Alumasa, J. N., Manzanillo, P. S., Peterson, N. D., Lundrigan, T., Baughn, A. D., Cox, J. S., & Keiler, K. C. (2017). Ribosome Rescue Inhibitors Kill Actively Growing and Nonreplicating Persister Mycobacterium tuberculosis Cells. *ACS Infect Dis*, 3(9), 634-644. doi:10.1021/acsinfectdis.7b00028

Anne, D., Elise de, R., Pauline van, N., Mischa van der, H., Katy, W., Johannes, K., Christophe, D. (2019). Modelling cell-free RNA and protein synthesis with minimal systems. *Physical Biology*, 16(2), 025001.

Assad, N., Tillo, D., Ray, S., Dzienny, A., FitzGerald, P. C., & Vinson, C. (2019). GABP $\alpha$  and CREB1 Binding to Double Nucleotide Polymorphisms of Their Consensus Motifs and Cooperative Binding to the Composite ETS  $\Leftrightarrow$  CRE Motif (ACCGGAAGTGACGTCA). *ACS Omega*, 4(6), 9904-9910. doi:10.1021/acsomega.9b00540

Assah, E., Goh, W., Zheng, X. T., Lim, T. X., Li, J., Lane, D., Tan, Y. N. (2018). Rapid Colorimetric Detection of p53 Protein Function using DNA-Gold Nanoconjugates with Applications for Drug Discovery and Cancer Diagnostics. *Colloids and Surfaces B: Biointerfaces*. doi:https://doi.org/10.1016/j.colsurfb.2018.05.007

Au - Pardatscher, G., Au - Schwarz-Schilling, M., Au - Sagredo, S., & Au - Simmel, F. C. (2018). Functional Surface-immobilization of Genes Using Multistep Strand Displacement Lithography. *JoVE*(140), e58634. doi:doi:10.3791/58634

- Aufinger, L., & Simmel, F. C. (2018). Artificial Gel-Based Organelles for Spatial Organization of Cell-Free Gene Expression Reactions. *Angew Chem Int Ed Engl*, 57(52), 17245-17248. doi:10.1002/anie.201809374
- Bailey, J. K., Shen, W., Liang, X. H., & Crooke, S. T. (2017). Nucleic acid binding proteins affect the subcellular distribution of phosphorothioate antisense oligonucleotides. *Nucleic Acids Res*, 45(18), 10649-10671. doi:10.1093/nar/gkx709
- Baumgardt, K., Gilet, L., Figaro, S., & Condon, C. (2018). The essential nature of YqfG, a YbeY homologue required for 3' maturation of *Bacillus subtilis* 16S ribosomal RNA is suppressed by deletion of RNase R. *Nucleic Acids Research*, gky488-gky488. doi:10.1093/nar/gky488
- Beri, J., Nash, T., Martin, R. M., & Bereman, M. S. (2017). Exposure to BMAA mirrors molecular processes linked to neurodegenerative disease. *Proteomics*, 17(17-18), 1700161-n/a. doi:10.1002/pmic.201700161
- Bhattacharya, A., Brea, R. J., Niederholtmeyer, H., & Devaraj, N. K. (2019). A minimal biochemical route towards de novo formation of synthetic phospholipid membranes. *Nature Communications*, 10(1), 300. doi:10.1038/s41467-018-08174-x
- Blanken, D., van Nies, P., & Danelon, C. (2019). Quantitative imaging of gene-expressing liposomes reveals rare favorable phenotypes. *Physical Biology*, 16(4), 045002. doi:10.1088/1478-3975/ab0c62
- Boles, K. S., Kannan, K., Gill, J., Felderman, M., Gouvis, H., Hubby, B., Gibson, D. G. (2017). Digital-to-biological converter for on-demand production of biologics. *Nat Biotechnol*, 35(7), 672-675. doi:10.1038/nbt.3859
- Bray, M. S., Bowman, J. C., Petrov, A. S., Reddi, A. R., Williams, L. D., & Glass, J. B. (2018). Ferrous iron mediates translation. bioRxiv. doi:10.1101/256958
- Bulutoglu, B., Dooley, K., Szilvay, G., Blenner, M., & Banta, S. (2017). Catch and Release: Engineered Allosterically Regulated beta-Roll Peptides Enable On/Off Biomolecular Recognition. *ACS Synth Biol*, 6(9), 1732-1741. doi:10.1021/acssynbio.7b00089
- Bulutoglu, B., Haghpanah, J., Campbell, E., & Banta, S. A. (2017). Engineered Biomolecular Recognition of RDX Using a Thermostable Alcohol Dehydrogenase as a Protein Scaffold. *ChemBioChem*, n/a-n/a. doi:10.1002/cbic.201700539
- Caveney, P. M., Norred, S. E., Chin, C. W., Boreyko, J. B., Razoogy, B. S., Retterer, S. T., Simpson, M. L. (2017). Resource Sharing Controls Gene Expression Bursting. *ACS Synth Biol*, 6(2), 334-343. doi:10.1021/acssynbio.6b00189
- Chang, J.-C., Swank, Z., Keiser, O., Maerkl, S. J., & Amstad, E. (2018). Microfluidic device for real-time formulation of reagents and their subsequent encapsulation into double emulsions. *Scientific Reports*, 8(1), 8143. doi:10.1038/s41598-018-26542-x

- Charon, J., Manteca, A., & Innis, A. (2018). Using the bacterial ribosome as a discovery platform for peptide-based antibiotics. *Biochemistry*. doi:10.1021/acs.biochem.8b00927
- Chauvier, A., Picard-Jean, F., Berger-Dancause, J.-C., Bastet, L., Naghdi, M. R., Dubé, A., Lafontaine, D. A. (2017). Transcriptional pausing at the translation start site operates as a critical checkpoint for riboswitch regulation. *Nature Communications*, 8, 13892. doi:10.1038/ncomms13892http://www.nature.com/articles/ncomms13892#supplementary-information
- Chen, J., & Gottesman, S. (2017). Hfq links translation repression to stress-induced mutagenesis in *E. coli*. *Genes Dev*. doi:10.1101/gad.302547.117
- Chuzel, L., Ganatra, M. B., Rapp, E., Henrissat, B., & Taron, C. H. (2018). Functional metagenomics identifies an exosialidase with an inverting catalytic mechanism that defines a new glycoside hydrolase family (GH156). *Journal of Biological Chemistry*. doi:10.1074/jbc.RA118.003302
- Cintrón, M., Zeng, J.-M., Barth, V. C., Cruz, J. W., Husson, R. N., & Woychik, N. A. (2019). Accurate target identification for Mycobacterium tuberculosis endoribonuclease toxins requires expression in their native host. *Scientific Reports*, 9(1), 5949. doi:10.1038/s41598-019-41548-9
- Cochrane, W. G., Hackler, A. L., Cavett, V. J., Price, A. K., & Paegel, B. M. (2017). Integrated, Continuous Emulsion Creamer. *Anal Chem*, 89(24), 13227-13234. doi:10.1021/acs.analchem.7b03070
- Crowe-McAuliffe, C., Graf, M., Huter, P., Takada, H., Abdelshahid, M., Nováček, J., Wilson, D. N. (2018). Structural basis for antibiotic resistance mediated by the *Bacillus subtilis* ABCF ATPase VmlR. *Proceedings of the National Academy of Sciences*, 115(36), 8978-8983. doi:10.1073/pnas.1808535115
- da Silva, E. S., Gomez-Vallejo, V., Lopez-Gallego, F., & Llop, J. (2017). Biocatalysis in Radiochemistry; Enzymatic Incorporation of PET radionuclides into molecules of biomedical interest. *J Labelled Comp Radiopharm*, n/a-n/a. doi:10.1002/jlcr.3592
- Dabrowski-Tumanski, P., Piejko, M., Niewieczermal, S., Stasiak, A., & Sulkowska, J. I. (2018). Protein Knotting by Active Threading of Nascent Polypeptide Chain Exiting From the Ribosome Exit Channel. *The Journal of Physical Chemistry B*. doi:10.1021/acs.jpcc.8b07634
- Delarue, M., Brittingham, G. P., Pfeffer, S., Surovtsev, I. V., Pingley, S., Kennedy, K. J., Holt, L. J. (2018). mTORC1 Controls Phase Separation and the Biophysical Properties of the Cytoplasm by Tuning Crowding. *Cell*. doi:https://doi.org/10.1016/j.cell.2018.05.042
- Diefenbach, X. W., Farasat, I., Guetschow, E. D., Welch, C. J., Kennedy, R. T., Sun, S., & Moore, J. C. (2018). Enabling Biocatalysis by High-Throughput Protein Engineering Using Droplet Microfluidics Coupled to Mass Spectrometry. *ACS Omega*, 3(2), 1498-1508. doi:10.1021/acsomega.7b01973
- Dillon, N. A., Peterson, N. D., Feaga, H. A., Keiler, K. C., & Baughn, A. D. (2017). Anti-tubercular Activity of Pyrazinamide is Independent of trans-Translation and RpsA. *Scientific Reports*, 7(1), 6135. doi:10.1038/s41598-017-06415-5

Dopp, B. J. L., Tamiev, D. D., & Reuel, N. F. (2018). Cell-free supplement mixtures: Elucidating the history and biochemical utility of additives used to support *in vitro* protein synthesis in *E. coli* extract. *Biotechnology Advances*. doi:https://doi.org/10.1016/j.biotechadv.2018.12.006

Dopp, J. L., & Reuel, N. F. (2018). Process optimization for scalable *E. coli* extract preparation for cell-free protein synthesis. *Biochemical Engineering Journal*. doi:https://doi.org/10.1016/j.bej.2018.06.021

Doshi, R., McGrath, A. P., Piñeros, M., Szewczyk, P., Garza, D. M., Kochian, L. V., & Chang, G. (2017). Functional characterization and discovery of modulators of SbMATE, the agronomically important aluminium tolerance transporter from *Sorghum bicolor*. *Scientific Reports*, 7(1), 17996. doi:10.1038/s41598-017-18146-8

Durner, E., Ott, W., Nash, M. A., & Gaub, H. E. (2017). Post-Translational Sortase-Mediated Attachment of High-Strength Force Spectroscopy Handles. *ACS Omega*, 2(6), 3064-3069. doi:10.1021/acsomega.7b00478

Duyen, T. T., Matsuura, H., Ujiie, K., Muraoka, M., Harada, K., & Hirata, K. (2017). Paper-based colorimetric biosensor for antibiotics inhibiting bacterial protein synthesis. *J Biosci Bioeng*, 123(1), 96-100. doi:10.1016/j.jbiosc.2016.07.015

Essuman, K., Summers, D. W., Sasaki, Y., Mao, X., DiAntonio, A., & Milbrandt, J. (2017). The SARM1 Toll/Interleukin-1 Receptor Domain Possesses Intrinsic NAD(+) Cleavage Activity that Promotes Pathological Axonal Degeneration. *Neuron*, 93(6), 1334-1343 e1335. doi:10.1016/j.neuron.2017.02.022

Essuman, K., Summers, D. W., Sasaki, Y., Mao, X., Yim, A. K. Y., DiAntonio, A., & Milbrandt, J. (2018). TIR Domain Proteins Are an Ancient Family of NAD(+)-Consuming Enzymes. *Curr Biol*, 28(3), 421-430 e424. doi:10.1016/j.cub.2017.12.024

Farias-Rico, J. A., Goetz, S. K., Marino, J., & von Heijne, G. (2017). Mutational analysis of protein folding inside the ribosome exit tunnel. *FEBS Lett*, 591(1), 155-163. doi:10.1002/1873-3468.12504

Fausther, M., E, G. L., & Dranoff, J. A. (2017). Liver myofibroblasts of murine origins express mesothelin: Identification of novel rat mesothelin splice variants. *PLoS ONE*, 12(9), e0184499. doi:10.1371/journal.pone.0184499

Fernández, C., & Giraldo, R. (2018). Modulation of the Aggregation of the Prion-like Protein RepA-WH1 by Chaperones in a Cell-Free Expression System and in Cytomimetic Lipid Vesicles. *ACS Synthetic Biology*. doi:10.1021/acssynbio.8b00283

Fernández, C., Rivas, G., Giraldo, R., & Jiménez, M. (2017). Chapter Five - Reconstruction of Cytotoxic Bacterial Protein Assemblies in Lipid Vesicles. In M. R. Aleš Iglíč & J. G.-S. Ana (Eds.), *Advances in Biomembranes and Lipid Self-Assembly* (Vol. Volume 26, pp. 173-193): Academic Press.

- Fleming, S. R., Bartges, T. E., Vinogradov, A. A., Kirkpatrick, C. L., Goto, Y., Suga, H., Bowers, A. A. (2019). Flexizyme-Enabled Benchtop Biosynthesis of Thiopeptides. *Journal of the American Chemical Society*, 141(2), 758-762. doi:10.1021/jacs.8b11521
- Florin, T., Maracci, C., Graf, M., Karki, P., Klepacki, D., Berninghausen, O., Mankin, A. S. (2017). An antimicrobial peptide that inhibits translation by trapping release factors on the ribosome. *Nature Structural & Molecular Biology*, 24, 752. doi:10.1038/nsmb.3439
- Fomenkov, A., Sun, Z., Dila, D. K., Anton, B. P., Roberts, R. J., & Raleigh, E. A. (2017). EcoBLMcrX, a classical modification-dependent restriction enzyme in *Escherichia coli* B: Characterization *in vivo* and *in vitro* with a new approach to cleavage site determination. *PLoS ONE*, 12(6), e0179853. doi:10.1371/journal.pone.0179853
- Fracasso, G., Korner, Y., Gonzales, D. T. T., & Dora Tang, T. Y. (2019). *In vitro* gene expression and detergent-free reconstitution of active proteorhodopsin in lipid vesicles. *Exp Biol Med* (Maywood), 244(4), 314-322. doi:10.1177/1535370218820290
- Gan, Q., & Fan, C. (2017). Increasing the fidelity of noncanonical amino acid incorporation in cell-free protein synthesis. *Biochim Biophys Acta*, 1861(11 Pt B), 3047-3052. doi:10.1016/j.bbagen.2016.12.002
- Garenne, D., & Noireaux, V. (2019). Cell-free transcription–translation: engineering biology from the nanometer to the millimeter scale. *Current Opinion in Biotechnology*, 58, 19-27. doi:https://doi.org/10.1016/j.copbio.2018.10.007
- Ghanem, A., Schweitzer, K., & Naumann, M. (2019). Catalytic domain of deubiquitylase USP48 directs interaction with Rel homology domain of nuclear factor kappaB transcription factor RelA. *Molecular Biology Reports*. doi:10.1007/s11033-019-04587-z
- Gregorio, N. E., Levine, M. Z., & Oza, J. P. (2019). A User's Guide to Cell-Free Protein Synthesis. *Methods and Protocols*, 2(1), 24.
- Gupta, S., Sarkar, S., Katranidis, A., & Bhattacharya, J. (2019). Development of a Cell-Free Optical Biosensor for Detection of a Broad Range of Mercury Contaminants in Water: A Plasmid DNA-Based Approach. *ACS Omega*, 4(5), 9480-9487. doi:10.1021/acsomega.9b00205
- Guzmán, G. I., Sandberg, T. E., LaCroix, R. A., Nyerges, Á., Papp, H., de Raad, M., Feist, A. M. (2019). Enzyme promiscuity shapes adaptation to novel growth substrates. *Molecular Systems Biology*, 15(4), e8462. doi:10.15252/msb.20188462
- Hadzi, S., Garcia-Pino, A., Haesaerts, S., Jurenas, D., Gerdes, K., Lah, J., & Loris, R. (2017). Ribosome-dependent *Vibrio cholerae* mRNAse HigB2 is regulated by a beta-strand sliding mechanism. *Nucleic Acids Res*, 45(8), 4972-4983. doi:10.1093/nar/gkx138
- Hamadani, K. M., Howe, J., Jensen, M. K., Wu, P., Cate, J. H. D., & Marqusee, S. (2017). An *in vitro* tag-and-modify protein sample generation method for single-molecule fluorescence resonance energy transfer. *J Biol Chem*, 292(38), 15636-15648. doi:10.1074/jbc.M117.791723

- Harris, N. J., Charalambous, K., Findlay, H. E., & Booth, P. J. (2018). Lipids modulate the insertion and folding of the nascent chains of alpha helical membrane proteins. *Biochemical Society Transactions*. doi:10.1042/bst20170424
- Harris, N. J., Reading, E., Ataka, K., Grzegorzewski, L., Charalambous, K., Liu, X., Booth, P. J. (2017). Structure formation during translocon-unassisted co-translational membrane protein folding. *Scientific Reports*, 7(1), 8021. doi:10.1038/s41598-017-08522-9
- Hoernes, T. P., & Erlacher, M. D. (2017). Methylated mRNA Nucleotides as Regulators for Ribosomal Translation. In A. Lusser (Ed.), *RNA Methylation: Methods and Protocols* (pp. 283-294). New York, NY: Springer New York.
- Hong, J., Brandt, N., Abdul-Rahman, F., Yang, A., Hughes, T., & Gresham, D. (2018). An incoherent feedforward loop facilitates adaptive tuning of gene expression. *eLife*, 7, e32323. doi:10.7554/eLife.32323
- Horiya, S., Bailey, J. K., & Krauss, I. J. (2017). Chapter Four - Directed Evolution of Glycopeptides Using mRNA Display. In B. Imperiali (Ed.), *Methods in Enzymology* (Vol. 597, pp. 83-141): Academic Press.
- Hou, N., Yan, Z., Fan, K., LI, H., Zhao, R., Xia, Y., Xun, L. (2019). OxyR senses reactive sulfane sulfur and activates genes for its removal in *Escherichia coli*. *bioRxiv*, 561019. doi:10.1101/561019
- Huang, A., Nguyen, P. Q., Stark, J. C., Takahashi, M. K., Donghia, N., Ferrante, T., Collins, J. J. (2018). BioBits™ Explorer: A modular synthetic biology education kit. *Science Advances*, 4(8). doi:10.1126/sciadv.aat5105
- Huang, W.-P., Cho, C.-P., & Chang, K.-Y. (2018). mRNA-Mediated Duplexes Play Dual Roles in the Regulation of Bidirectional Ribosomal Frameshifting. *International Journal of Molecular Sciences*, 19(12), 3867.
- Huter, P., Arenz, S., Bock, L. V., Graf, M., Frister, J. O., Heuer, A., Wilson, D. N. (2017). Structural Basis for Polyproline-Mediated Ribosome Stalling and Rescue by the Translation Elongation Factor EF-P. *Mol Cell*, 68(3), 515-527 e516. doi:10.1016/j.molcel.2017.10.014
- Jacobs, M. L., Boyd, M. A., & Kamat, N. P. (2019). Diblock copolymers enhance folding of a mechanosensitive membrane protein during cell-free expression. *Proceedings of the National Academy of Sciences*, 116(10), 4031-4036. doi:10.1073/pnas.1814775116
- Jain, M., Fleites, L. A., & Gabriel, D. W. (2017). A Small Wolbachia Protein Directly Represses Phage Lytic Cycle Genes in "Candidatus Liberibacter asiaticus" within Psyllids. *mSphere*, 2(3). doi:10.1128/mSphereDirect.00171-17
- Jerlström Hultqvist, J., Warsi, O., Söderholm, A., Knopp, M., Eckhard, U., Vorontsov, E., Andersson, D. I. (2018). A bacteriophage enzyme induces bacterial metabolic perturbation that confers a novel promiscuous function. *Nature Ecology & Evolution*, 2(8), 1321-1330. doi:10.1038/s41559-018-0568-5

- Jia, H., & Schwille, P. (2019). Bottom-up synthetic biology: reconstitution in space and time. *Current Opinion in Biotechnology*, 60, 179-187. doi:<https://doi.org/10.1016/j.copbio.2019.05.008>
- Jiang, L., Zhao, J., Lian, J., & Xu, Z. (2018). Cell-free protein synthesis enabled rapid prototyping for metabolic engineering and synthetic biology. *Synthetic and Systems Biotechnology*. doi:<https://doi.org/10.1016/j.synbio.2018.02.003>
- Jimeno, S., Camarillo, R., Mejías-Navarro, F., Fernández-Ávila, M. J., Soria-Bretones, I., Prados-Carvajal, R., & Huertas, P. (2018). The Helicase PIF1 Facilitates Resection over Sequences Prone to Forming G4 Structures. *Cell Reports*, 24(12), 3262-3273.e3264. doi:<https://doi.org/10.1016/j.celrep.2018.08.047>
- Jin, L., Kamat, N. P., Jena, S., & Szostak, J. W. (2018). Fatty Acid/Phospholipid Blended Membranes: A Potential Intermediate State in Protocellular Evolution. *Small*, 14(15), e1704077. doi:10.1002/sml.201704077
- Josipovic, I., Pfluger, B., Fork, C., Vasconez, A. E., Oo, J. A., Hitzel, J., Leisegang, M. S. (2018). Long noncoding RNA LISPR1 is required for S1P signaling and endothelial cell function. *J Mol Cell Cardiol*, 116, 57-68. doi:10.1016/j.yjmcc.2018.01.015
- Jurenas, D., Chatterjee, S., Konijnenberg, A., Sobott, F., Droogmans, L., Garcia-Pino, A., & Van Melderen, L. (2017). AtaT blocks translation initiation by N-acetylation of the initiator tRNA(fMet). *Nat Chem Biol*, 13(6), 640-646. doi:10.1038/nchembio.2346
- Jurénas, D., Van Melderen, L., & Garcia-Pino, A. (2019). Mechanism of regulation and neutralization of the AtaR–AtaT toxin–antitoxin system. *Nature Chemical Biology*. doi:10.1038/s41589-018-0216-z
- Kalkreuter, E., Keeler, A. M., Malico, A. A., Bingham, K. S., Gayen, A. K., & Williams, G. J. (2019). Development of a Genetically Encoded Biosensor for Detection of Polyketide Synthase Extender Units in *Escherichia coli*. *ACS Synthetic Biology*, 8(6), 1391-1400. doi:10.1021/acssynbio.9b00078
- Kaye, E. G., Booker, M., Kurland, J. V., Conicella, A. E., Fawzi, N. L., Bulyk, M. L., Larschan, E. (2018). Differential Occupancy of Two GA-Binding Proteins Promotes Targeting of the Drosophila Dosage Compensation Complex to the Male X Chromosome. *Cell Reports*, 22(12), 3227-3239. doi:<https://doi.org/10.1016/j.celrep.2018.02.098>
- Kempf, N., Remes, C., Ledesch, R., Zuchner, T., Hofig, H., Ritter, I., Fitter, J. (2017). A Novel Method to Evaluate Ribosomal Performance in Cell-Free Protein Synthesis Systems. *Sci Rep*, 7, 46753. doi:10.1038/srep46753
- Kinoshita, E., Kinoshita-Kikuta, E., Karata, K., Kawano, T., Nishiyama, A., Yamato, M., & Koike, T. (2017). Specific glutamic acid residues in targeted proteins induce exaggerated retardations in Phos-tag SDS-PAGE migration. *Electrophoresis*, 38(8), 1139-1146. doi:10.1002/elps.201600520
- Knauf, G. A., Cunningham, A. L., Kazi, M. I., Riddington, I. M., Crofts, A. A., Cattoir, V., Davies, B. W. (2018). Exploring the Antimicrobial Action of Quaternary Amines against *Acinetobacter baumannii*. *mBio*, 9(1). doi:10.1128/mBio.02394-17

- Koren, I., Timms, R. T., Kula, T., Xu, Q., Li, M. Z., & Elledge, S. J. (2018). The Eukaryotic Proteome Is Shaped by E3 Ubiquitin Ligases Targeting C-Terminal Degrons. *Cell*. doi:https://doi.org/10.1016/j.cell.2018.04.028
- Kreamer, N. N. K., Chopra, R., Caughlan, R. E., Fabbro, D., Fang, E., Gee, P., Uehara, T. (2018). Acylated-acyl carrier protein stabilizes the *Pseudomonas aeruginosa* WaaP lipopolysaccharide heptose kinase. *Scientific Reports*, 8(1), 14124. doi:10.1038/s41598-018-32379-1
- Kudva, R., Pardo-Avila, F., Sandhu, H., Carroni, M., Bernstein, H. D., & Von Heijne, G. (2018). The Shape of the Ribosome Exit Tunnel Affects Cotranslational Protein Folding. *bioRxiv*. doi:10.1101/274191
- Kummer, E., Leibundgut, M., Rackham, O., Lee, R. G., Boehringer, D., Filipovska, A., & Ban, N. (2018). Unique features of mammalian mitochondrial translation initiation revealed by cryo-EM. *Nature*, 560(7717), 263-267. doi:10.1038/s41586-018-0373-y
- Kusmierek, M., Hoßmann, J., Witte, R., Opitz, W., Vollmer, I., Volk, M., Dersch, P. (2019). A bacterial secreted translocator hijacks riboregulators to control type III secretion in response to host cell contact. *PLOS Pathogens*, 15(6), e1007813. doi:10.1371/journal.ppat.1007813
- Lagoutte, P., Lugari, A., Elie, C., Potisopon, S., Donnat, S., Mignon, C., Stadthagen, G. (2019). Combination of ribosome display and next generation sequencing as a powerful method for identification of affibody binders against  $\beta$ -lactamase CTX-M15. *N Biotechnol*. doi:https://doi.org/10.1016/j.nbt.2019.01.004
- Lavickova, B., & Maerkl, S. J. (2018). A simple, robust, and low-cost method to produce the PURE cell-free system. *bioRxiv*, 420570. doi:10.1101/420570
- Lavickova, B., & Maerkl, S. J. (2019). A Simple, Robust, and Low-Cost Method To Produce the PURE Cell-Free System. *ACS Synthetic Biology*, 8(2), 455-462. doi:10.1021/acssynbio.8b00427
- Layton, C. J., McMahon, P. L., & Greenleaf, W. J. (2018). Large-scale, quantitative protein assays on a high-throughput DNA sequencing chip. *bioRxiv*. doi:10.1101/342808
- Lenz, M., Meisner, J., Quertinmont, L., Lutz, S., Kastner, J., & Nestl, B. M. (2017). Asymmetric Ketone Reduction by Imine Reductases. *ChemBioChem*, 18(3), 253-256. doi:10.1002/cbic.201600647
- Leroy, M., Piton, J., Gilet, L., Pellegrini, O., Proux, C., Coppee, J. Y., Condon, C. (2017). Rae1/YacP, a new endoribonuclease involved in ribosome-dependent mRNA decay in *Bacillus subtilis*. *EMBO J*, 36(9), 1167-1181. doi:10.15252/emj.201796540
- Li, C., Liu, S., Liu, P., Wang, Y., Xu, C., Tao, J., & He, C. (2018). The YebN Leader RNA Acts as a Mn<sup>2+</sup> Sensor Required for the Interaction of *Xanthomonas oryzae* and Rice. *Molecular Plant-Microbe Interactions*. doi:10.1094/MPMI-02-18-0043-R
- Li, J., Wassie, B., & Church, G. M. (2017). Physiological Assembly Of Functionally Active 30S Ribosomal Subunits From *In Vitro* Synthesized Parts. *bioRxiv*. doi:10.1101/137745



- Li, J., Zhang, C., Huang, P., Kuru, E., Benson, E. T. C. F., Li, T., & Church, G. M. (2017). Dissecting limiting factors of the Protein synthesis Using Recombinant Elements (PURE) system. *bioRxiv*. doi:10.1101/099838
- Li, J., Zhang, C., Huang, P., Kuru, E., Forster-Benson, E. T. C., Li, T., & Church, G. M. (2017). Dissecting limiting factors of the Protein synthesis Using Recombinant Elements (PURE) system. *Translation*, 5(1), e1327006. doi:10.1080/21690731.2017.1327006
- Li, X., Jiang, Y., Chong, S., & Walt, D. R. (2018). Bottom-up single-molecule strategy for understanding subunit function of tetrameric  $\beta$ -galactosidase. *Proceedings of the National Academy of Sciences*. doi:10.1073/pnas.1805690115
- Lim, M. C. C., Maubach, G., Sokolova, O., Feige, M. H., Diezko, R., Buchbinder, J., Naumann, M. (2017). Pathogen-induced ubiquitin-editing enzyme A20 bifunctionally shuts off NF-kappaB and caspase-8-dependent apoptotic cell death. *Cell Death Differ*, 24(9), 1621-1631. doi:10.1038/cdd.2017.89
- Liu, K., Maciuba, K., & Kaiser, C. M. (2019). The Ribosome Cooperates with a Chaperone to Guide Multi-domain Protein Folding. *Molecular cell*. doi:https://doi.org/10.1016/j.molcel.2019.01.043
- Liu, K., Rehfus, J. E., Mattson, E., & Kaiser, C. M. (2017). The ribosome destabilizes native and non-native structures in a nascent multidomain protein. *Protein Sci*, 26(7), 1439-1451. doi:10.1002/pro.3189
- Liu, N., Hargreaves, V. V., Zhu, Q., Kurland, J. V., Hong, J., Kim, W., Orkin, S. H. (2018). Direct Promoter Repression by BCL11A Controls the Fetal to Adult Hemoglobin Switch. *Cell*. doi:https://doi.org/10.1016/j.cell.2018.03.016
- Ma, D., Shen, L., Wu, K., Diehnelt, C. W., & Green, A. A. (2018). Low-Cost Detection of Norovirus Using Paper-Based Cell-Free Systems and Synbody-Based Viral Enrichment. *Synthetic Biology*, ysy018-ysy018. doi:10.1093/synbio/ysy018
- Makki, A., Rada, P., Žárský, V., Kerešiče, S., Kováčik, L., Novotný, M., Tachezy, J. (2019). Triplet-pore structure of a highly divergent TOM complex of hydrogenosomes in *Trichomonas vaginalis*. *PLOS Biology*, 17(1), e3000098. doi:10.1371/journal.pbio.3000098
- Mardirossian, M., Barrière, Q., Timchenko, T., Müller, C., Pacor, S., Mergaert, P., Wilson, D. N. (2018). Fragments of the Nonlytic Proline-Rich Antimicrobial Peptide Bac5 Kill *Escherichia coli* Cells by Inhibiting Protein Synthesis. *Antimicrobial Agents and Chemotherapy*, 62(8), e00534-00518. doi:10.1128/aac.00534-18
- Mardirossian, M., Pérébasquine, N., Benincasa, M., Gambato, S., Hofmann, S., Huter, P., Wilson, D. N. (2018). The Dolphin Proline-Rich Antimicrobial Peptide Tur1A Inhibits Protein Synthesis by Targeting the Bacterial Ribosome. *Cell Chemical Biology*. doi:https://doi.org/10.1016/j.chembiol.2018.02.004

- Mariani, L., Weinand, K., Vedenko, A., Barrera, L. A., & Bulyk, M. L. (2017). Identification of Human Lineage-Specific Transcriptional Coregulators Enabled by a Glossary of Binding Modules and Tunable Genomic Backgrounds. *Cell Syst*, 5(3), 187-201 e187. doi:10.1016/j.cels.2017.06.015
- Meydan, S., Marks, J., Klepacki, D., Sharma, V., Baranov, P. V., Firth, A. E., Mankin, A. S. (2019). Retapamulin-assisted ribosome profiling reveals the alternative bacterial proteome. *bioRxiv*, 520783. doi:10.1101/520783
- Meydan, S., Marks, J., Klepacki, D., Sharma, V., Baranov, P. V., Firth, A. E., Mankin, A. S. (2019). Retapamulin-Assisted Ribosome Profiling Reveals the Alternative Bacterial Proteome. *Molecular cell*. doi:https://doi.org/10.1016/j.molcel.2019.02.017
- Migas, U. M., Quinn, M. K., & McManus, J. J. (2017). Protein self-assembly following *in situ* expression in artificial and mammalian cells. *Integr Biol (Camb)*, 9(5), 444-450. doi:10.1039/c6ib00240d
- Moore, S. J., MacDonald, J. T., & Freemont, P. S. (2017). Cell-free synthetic biology for *in vitro* prototype engineering. *Biochem Soc Trans*, 45(3), 785-791. doi:10.1042/BST20170011
- Moriizumi, Y., Tabata, K. V., Miyoshi, D., & Noji, H. (2019). Osmolyte-Enhanced Protein Synthesis Activity of a Reconstituted Translation System. *ACS Synthetic Biology*. doi:10.1021/acssynbio.8b00513
- Mückl, A., Schwarz-Schilling, M., Fischer, K., & Simmel, F. C. (2018). Filamentation and restoration of normal growth in *Escherichia coli* using a combined CRISPRi sgRNA/antisense RNA approach. *PLoS ONE*, 13(9), e0198058. doi:10.1371/journal.pone.0198058
- Müller, P., Gimpel, M., Wildenhain, T., & Brantl, S. (2019). A new role for CsrA: promotion of complex formation between an sRNA and its mRNA target in *Bacillus subtilis*. *RNA Biol*, 16(7), 972-987. doi:10.1080/15476286.2019.1605811
- Nguyen, D. T. T., Richter, D., Michel, G., Mitschka, S., Kolanus, W., Cuevas, E., & Wulczyn, F. G. (2017). The ubiquitin ligase LIN41/TRIM71 targets p53 to antagonize cell death and differentiation pathways during stem cell differentiation. *Cell Death Differ*, 24(6), 1063-1078. doi:10.1038/cdd.2017.54
- Notari, L., Martinez-Carranza, M., Stenmark, P., & Von Heijne, G. (2018). Cotranslational folding of a pentarepeat  $\beta$ -helix protein. *bioRxiv*. doi:10.1101/255810
- Nshogozabahizi, J. C., Aubrey, K. L., Ross, J. A., & Thakor, N. (2019). Applications and limitations of regulatory RNA elements in synthetic biology and biotechnology. *Journal of Applied Microbiology*, 0(ja). doi:10.1111/jam.14270
- Osterman, I. A., Khabibullina, N. F., Komarova, E. S., Kasatsky, P., Kartsev, V. G., Bogdanov, A. A., Polikanov, Y. S. (2017). Madumycin II inhibits peptide bond formation by forcing the peptidyl transferase center into an inactive state. *Nucleic Acids Res*, 45(12), 7507-7514. doi:10.1093/nar/gkx413

- Pantel, L., Florin, T., Dobosz-Bartoszek, M., Racine, E., Sarciaux, M., Serri, M., Gualtieri, M. (2018). Odilorhabdins, Antibacterial Agents that Cause Miscoding by Binding at a New Ribosomal Site. *Molecular Cell*, 70(1), 83-94.e87. doi:<https://doi.org/10.1016/j.molcel.2018.03.001>
- Pardatscher, G., Schwarz-Schilling, M., Daube, S. S., Bar-Ziv, R. H., & Simmel, F. C. (2018). Gene Expression on DNA Biochips Patterned with Strand-Displacement Lithography. *Angew Chem Int Ed Engl*, 57(17), 4783-4786. doi:[10.1002/anie.201800281](https://doi.org/10.1002/anie.201800281)
- Pardee, K. (2018). Perspective: Solidifying the impact of cell-free synthetic biology through lyophilization. *Biochemical Engineering Journal*, 138, 91-97. doi:<https://doi.org/10.1016/j.bej.2018.07.008>
- Park, H., McGibbon, L. C., Potts, A. H., Yakhnin, H., Romeo, T., & Babitzke, P. (2017). Translational Repression of the RpoS Antiadapter IraD by CsrA Is Mediated via Translational Coupling to a Short Upstream Open Reading Frame. *mBio*, 8(4). doi:[10.1128/mBio.01355-17](https://doi.org/10.1128/mBio.01355-17)
- Penrose, A., Keenan, J. L., Bray, D., Ramlall, V., & Siggers, T. (2019). Comprehensive study of nuclear receptor DNA binding provides a revised framework for understanding receptor specificity. *Nature Communications*, 10(1), 2514. doi:[10.1038/s41467-019-10264-3](https://doi.org/10.1038/s41467-019-10264-3)
- Petroll, K., Kopp, D., Care, A., Bergquist, P. L., & Sunna, A. (2018). Tools and strategies for constructing cell-free enzyme pathways. *Biotechnology Advances*. doi:<https://doi.org/10.1016/j.biotechadv.2018.11.007>
- Praetorius, F., & Dietz, H. (2017). Self-assembly of genetically encoded DNA-protein hybrid nanoscale shapes. *Science*, 355(6331). doi:[10.1126/science.aam5488](https://doi.org/10.1126/science.aam5488)
- Puckette, M., Clark, B. A., Smith, J. D., Turecek, T., Martel, E., Gabbert, L., Rasmussen, M. (2017). Foot-and-Mouth Disease (FMD) Virus 3C Protease Mutant L127P: Implications for FMD Vaccine Development. *J Virol*, 91(22). doi:[10.1128/JVI.00924-17](https://doi.org/10.1128/JVI.00924-17)
- Pyrihová, E., Motyčková, A., Voleman, L., Wandyszewska, N., Fišer, R., Seydlová, G., Doležal, P. (2018). A Single Tim Translocase in the Mitosomes of *Giardia intestinalis* Illustrates Convergence of Protein Import Machines in Anaerobic Eukaryotes. *Genome Biology and Evolution*, 10(10), 2813-2822. doi:[10.1093/gbe/evy215](https://doi.org/10.1093/gbe/evy215)
- Raad, M., Modavi, C., Sukovich, D. J., & Anderson, J. C. (2017). Observing Biosynthetic Activity Utilizing Next Generation Sequencing and the DNA Linked Enzyme Coupled Assay. *ACS Chem Biol*, 12(1), 191-199. doi:[10.1021/acscchembio.6b00652](https://doi.org/10.1021/acscchembio.6b00652)
- Rajaratnam, G., Supeinthiran, A., Meier, R., & Su, K. F. Y. (2018). CRISPR/Cas9 deletions in a conserved exon of *Distal-less* generates gains and losses in a recently acquired morphological novelty in flies. *iScience*, 10, 222-233. doi:<https://doi.org/10.1016/j.isci.2018.11.036>
- Ramakrishnan, R., Houben, B., Rousseau, F., & Schymkowitz, J. (2019). Differential proteostatic regulation of insoluble and abundant proteins. *Bioinformatics*. doi:[10.1093/bioinformatics/btz214](https://doi.org/10.1093/bioinformatics/btz214)

- Ranjan, N., & Leidel, S. A. (2019). The epitranscriptome in translation regulation: mRNA and tRNA modifications as the two sides of the same coin? *FEBS Letters*, 593(13), 1483-1493. doi:10.1002/1873-3468.13491
- Ray, S., Tillo, D., Assad, N., Ufot, A., Deppmann, C., Durell, S. R., Vinson, C. (2018). Replacing C189 in the bZIP domain of Zta with S, T, V, or A changes DNA binding specificity to four types of double-stranded DNA. *Biochem Biophys Res Commun*, 501(4), 905-912. doi:10.1016/j.bbrc.2018.05.080
- Ricci, V., Attah, V., Overton, T., Grainger, D. C., & Piddock, L. J. V. (2017). CsrA maximizes expression of the AcrAB multidrug resistance transporter. *Nucleic Acids Res*, 45(22), 12798-12807. doi:10.1093/nar/gkx929
- Rycroft, J. A., Gollan, B., Grabe, G. J., Hall, A., Cheverton, A. M., Larrouy-Maumus, G., Helaine, S. (2018). Activity of acetyltransferase toxins involved in Salmonella persister formation during macrophage infection. *Nature Communications*, 9(1), 1993. doi:10.1038/s41467-018-04472-6
- Sadler, F. W., Dodevski, I., & Sarkar, C. A. (2017). RNA Thermometers for the PURExpress System. *ACS Synth Biol*. doi:10.1021/acssynbio.7b00294
- Samelson, A. J., Bolin, E., Costello, S. M., Sharma, A. K., O'Brien, E. P., & Marqusee, S. (2018). Kinetic and structural comparison of a protein's cotranslational folding and refolding pathways. *Science Advances*, 4(5). doi:10.1126/sciadv.aas9098
- Schneider, B., Weigel, W., Sztukowska, M., & Demuth, D. R. (2018). Identification and functional characterization of type II toxin/antitoxin systems in *Aggregatibacter actinomycetemcomitans*. *Mol Oral Microbiol*, 33(3), 224-233. doi:10.1111/omi.12215
- Seip, B., Sacheau, G., Dupuy, D., & Innis, C. A. (2018). High-throughput inverse toeprinting reveals the complete sequence dependence of ribosome-targeting antibiotics. *bioRxiv*, 298794. doi:10.1101/298794
- Seip, B., Sacheau, G., Dupuy, D., & Innis, C. A. (2018). Ribosomal stalling landscapes revealed by high-throughput inverse toeprinting of mRNA libraries. *Life Science Alliance*, 1(5). doi:10.26508/lsa.201800148
- Senoussi, A., Lee Tin Wah, J., Shimizu, Y., Robert, J., Jaramillo, A., Findeiss, S., Estevez-Torres, A. (2018). Quantitative Characterization of Translational Riboregulators Using an *in Vitro* Transcription–Translation System. *ACS Synthetic Biology*, 7(5), 1269-1278. doi:10.1021/acssynbio.7b00387
- Sharma, K., Hongo, A., Nishigaki, K., Takamura, Y., & Biyani, M. (2018). 'Head-to-Head' mRNA display for the translation of multi-copied proteins with a free C-terminus. *Anal Biochem*, 557, 77-83. doi:https://doi.org/10.1016/j.ab.2018.07.015

- Shokri, L., Inukai, S., Hafner, A., Weinand, K., Hens, K., Vedenko, A., Bulyk, M. L. (2019). A Comprehensive *Drosophila melanogaster* Transcription Factor Interactome. *Cell Reports*, 27(3), 955-970.e957. doi:<https://doi.org/10.1016/j.celrep.2019.03.071>
- Srivastava, R., Zalisko, B. E., Keenan, R. J., & Howell, S. H. (2017). The GET System Inserts the Tail-Anchored Protein, SYP72, into Endoplasmic Reticulum Membranes. *Plant Physiol*, 173(2), 1137-1145. doi:10.1104/pp.16.00928
- Sterk, M., Romilly, C., & Wagner, E Gerhart H. (2018). Unstructured 5'-tails act through ribosome standby to override inhibitory structure at ribosome binding sites. *Nucleic Acids Research*, gky073-gky073. doi:10.1093/nar/gky073
- Steyer, D. J., & Kennedy, R. T. (2019). High-Throughput Nanoelectrospray Ionization-Mass Spectrometry Analysis of Microfluidic Droplet Samples. *Analytical Chemistry*, 91(10), 6645-6651. doi:10.1021/acs.analchem.9b00571
- Su, T., Cheng, J., Sohmen, D., Hedman, R., Berninghausen, O., von Heijne, G., Beckmann, R. (2017). The force-sensing peptide VemP employs extreme compaction and secondary structure formation to induce ribosomal stalling. *eLife*, 6, e25642. doi:10.7554/eLife.25642
- Takahashi, M. K., Tan, X., Dy, A. J., Braff, D., Akana, R. T., Furuta, Y., Collins, J. J. (2018). A low-cost paper-based synthetic biology platform for analyzing gut microbiota and host biomarkers. *Nature Communications*, 9(1), 3347. doi:10.1038/s41467-018-05864-4
- Tang, T. D., Cecchi, D., Fracasso, G., Accardi, D., Coutable-Pennarun, A., Mansy, S. S., Mann, S. (2017). Gene-Mediated Chemical Communication in Synthetic Protocell Communities. *ACS Synth Biol*. doi:10.1021/acssynbio.7b00306
- Tereshchenkov, A. G., Dobosz-Bartoszek, M., Osterman, I. A., Marks, J., Sergeeva, V. A., Kasatsky, P., Polikanov, Y. S. (2018). Binding and Action of Amino Acid Analogs of Chloramphenicol upon the Bacterial Ribosome. *J Mol Biol*. doi:10.1016/j.jmb.2018.01.016
- Tillo, D., Ray, S., Syed, K. S., Gaylor, M. R., He, X., Wang, J., Vinson, C. (2017). The Epstein-Barr Virus B-ZIP Protein Zta Recognizes Specific DNA Sequences Containing 5-Methylcytosine and 5-Hydroxymethylcytosine. *Biochemistry*, 56(47), 6200-6210. doi:10.1021/acs.biochem.7b00741
- Tran, S. T. P., Hipolito, C. J., Suzuki, H., Xie, R., Kim Tuyen, H. D., Dijke, P. t., Kato, M. (2019). Generation of non-standard macrocyclic peptides specifically binding TSC-22 homologous gene-1. *Biochemical and Biophysical Research Communications*, 516(2), 445-450. doi:<https://doi.org/10.1016/j.bbrc.2019.06.035>
- VanDrisse, C. M., Parks, A. R., & Escalante-Semerena, J. C. (2017). A Toxin Involved in Salmonella Persistence Regulates Its Activity by Acetylating Its Cognate Antitoxin, a Modification Reversed by CobB Sirtuin Deacetylase. *mBio*, 8(3). doi:10.1128/mBio.00708-17

- Verdorfer, T., & Gaub, H. E. (2018). Ligand Binding Stabilizes Cellulosomal Cohesins as Revealed by AFM-based Single-Molecule Force Spectroscopy. *Scientific Reports*, 8(1), 9634. doi:10.1038/s41598-018-27085-x
- Wang, S., Yang, C. I., & Shan, S. O. (2017). SecA mediates cotranslational targeting and translocation of an inner membrane protein. *J Cell Biol*, 216(11), 3639-3653. doi:10.1083/jcb.201704036
- Wang, X., Arceci, A., Bird, K., Mills, C. A., Choudhury, R., Kernan, J. L., Emanuele, M. J. (2017). VprBP/DCAF1 Regulates the Degradation and Nonproteolytic Activation of the Cell Cycle Transcription Factor FoxM1. *Mol Cell Biol*, 37(13). doi:10.1128/MCB.00609-16
- Wensel, D., Sun, Y., Li, Z., Zhang, S., Picarillo, C., McDonagh, T., Davis, J. (2017). Discovery and Characterization of a Novel CD4-Binding Adnectin with Potent Anti-HIV Activity. *Antimicrob Agents Chemother*, 61(8). doi:10.1128/AAC.00508-17
- Wick, S., Walsh, D. I., Bobrow, J., Hamad-Schifferli, K., Kong, D. S., Thorsen, T., Carr, P. A. (2019). PERSIA for Direct Fluorescence Measurements of Transcription, Translation, and Enzyme Activity in Cell-Free Systems. *ACS Synthetic Biology*, 8(5), 1010-1025. doi:10.1021/acssynbio.8b00450
- Widowati, E. W., Bamberg-Lemper, S., & Becker, W. (2018). Mutational analysis of two residues in the DYRK homology box of the protein kinase DYRK1A. *BMC Research Notes*, 11(1), 297. doi:10.1186/s13104-018-3416-4
- Widowati, E. W., Ernst, S., Hausmann, R., Müller-Newen, G., & Becker, W. (2018). Functional characterization of DYRK1A missense variants associated with a syndromic form of intellectual deficiency and autism. *Biology Open*, 7(4). doi:10.1242/bio.032862
- Wilcox, B., Osterman, I., Serebryakova, M., Lukyanov, D., Komarova, E., Gollan, B., Severinov, K. (2018). *Escherichia coli* ItaT is a type II toxin that inhibits translation by acetylating isoleucyl-tRNA<sup>Ile</sup>. *Nucleic Acids Research*, gky560-gky560. doi:10.1093/nar/gky560
- Wruck, F., Katranidis, A., Nierhaus, K. H., Buldt, G., & Hegner, M. (2017). Translation and folding of single proteins in real time. *Proc Natl Acad Sci USA*, 114(22), E4399-E4407. doi:10.1073/pnas.1617873114
- Xu, C., Liu, K., Lei, M., Yang, A., Li, Y., Hughes, T. R., & Min, J. (2017). DNA Sequence Recognition of Human CXXC Domains and Their Structural Determinants. *Structure*. doi:10.1016/j.str.2017.11.022
- Yakhnin, H., Aichele, R., Ades, S. E., Romeo, T., & Babitzke, P. (2017). Circuitry linking the global Csr and sigma(E)-dependent cell envelope stress response systems. *J Bacteriol*. doi:10.1128/JB.00484-17
- Yamaguchi, A., Iraha, F., Ohtake, K., & Sakamoto, K. (2018). Pyrrolysyl-tRNA Synthetase with a Unique Architecture Enhances the Availability of Lysine Derivatives in Synthetic Genetic Codes. *Molecules*, 23(10), 2460.

- Yeom, J., Pontes, M. H., Choi, J., & Groisman, E. A. (2018). A protein that controls the onset of a *Salmonella* virulence program. *The EMBO Journal*. doi:10.15252/embj.201796977
- Yeom, J., Wayne, K. J., & Groisman, E. A. (2017). Sequestration from Protease Adaptor Confers Differential Stability to Protease Substrate. *Mol Cell*, 66(2), 234-246 e235. doi:10.1016/j.molcel.2017.03.009
- Yin, Y., Morgunova, E., Jolma, A., Kaasinen, E., Sahu, B., Khund-Sayeed, S., Taipale, J. (2017). Impact of cytosine methylation on DNA binding specificities of human transcription factors. *Science*, 356(6337). doi:10.1126/science.aaj2239
- Yoon, K. A., Park, Y. H., Koh, Y. H., & Lee, S. H. (2017). Bioactivity and molecular characterization of bombolitins from *Bombus ardens*, *B. consobrinus*, *B. terrestris* and *B. ussurensis*. *Journal of Asia-Pacific Entomology*, 20(4), 1190-1196. doi:10.1016/j.aspen.2017.08.020
- You, C., Dai, X., & Wang, Y. (2017). Position-dependent effects of regioisomeric methylated adenine and guanine ribonucleosides on translation. *Nucleic Acids Res*, 45(15), 9059-9067. doi:10.1093/nar/gkx515
- Yue, K., Zhu, Y., & Kai, L. (2019). Cell-Free Protein Synthesis: Chassis toward the Minimal Cell. *Cells*, 8(4), 315.
- Zhang, S.-Q., Ma, K.-Y., Schonnesen, A. A., Zhang, M., He, C., Sun, E., Jiang, N. (2018). High-throughput determination of the antigen specificities of T cell receptors in single cells. *Nat Biotechnol*. doi:10.1038/nbt.4282
- Zubaite, G., Simutis, K., Galinis, R., Milkus, V., Kiseliovas, V., & Mazutis, L. (2017). Droplet Microfluidics Approach for Single-DNA Molecule Amplification and Condensation into DNA-Magnesium-Pyrophosphate Particles. *Micromachines*, 8(2), 62.
- Zuo, Z., Roy, B., Chang, Y. K., Granas, D., & Stormo, G. D. (2017). Measuring quantitative effects of methylation on transcription factor-DNA binding affinity. *Sci Adv*, 3(11), eaao1799. doi:10.1126/sciadv.aao1799



[www.neb.com](http://www.neb.com)



be INSPIRED  
drive DISCOVERY  
stay GENUINE