Structural Biology Resources

Authors	Title	Journal	Volume	Page	Year	DOI	Instrument	Notes
David P Klebl, Molly S C Gravett, Dimitrios Kontziampasis, David J Wright, Robin S Bon, Diana C F Monteiro, Martin Trebbin, Frank Sobott, Howard D White, Michele C Darrow, Rebecca F Thompson0, Stephen P Muench	Need for Speed: Examining Protein Behavior during CryoEM Grid Preparation at Different Timescales	Structure	28	1238-1248	2020	10.1016/j.str.2020.07.018	chameleon	cryo-EM
Alex J Noble, Hui Wei, Venkata P Dandey, Zhening Zhang, Yong Zi Tan, Clinton S Potter, Bridget Carragher	Reducing effects of particle adsorption to the air–water interface in cryo-EM.	Nat Methods	15	793-795	2018	10.1038/s41592-018-0139-3	chameleon	cryo-EM
Anjan Debnath , Claudia M Calvet , Gareth Jennings , Wenxu Zhou, Alexander Aksenov , Madeline R Luth, Ruben Abagyan, W David Nes, James H McKerrow, Larissa M Podust	CYP51 is an essential drug target for the treatment of primary amoebic meningoencephalitis (PAM).	PLoS Negl Trop Dis	11	e0006104	2017	10.1371/journal.pntd.0006104	dragonfly crystal	optimization
Patrick K O'Neil, Lynn G L Richardson, Yamuna D Paila, Grzegorz Piszczek, Srinivas Chakravarthy, Nicholas Noinaj, Danny Schnell	The POTRA domains of Toc75 exhibit chaperone-like function to facilitate import into chloroplasts.	Proc Natl Acad Sci USA	114	E4868-E4876	2017	10.1073/pnas.1621179114	dragonfly crystal	optimization
Pablo Alcón, Guillermo Montoya, Stefano Stella	Assembly of Francisella novicida Cpf1 endonuclease in complex with guide RNA and target DNA.	Acta Crysta F	73	409-415	2017	10.1107/s2053230x1700838x	dragonfly crystal; mosquito crystal	optimization; sitting drop
Emmanuel Nji, Yurie Chatzikyriakidou, Michael Landreh, David Drew	An engineered thermal-shift screen reveals specific lipid preferences of eukaryotic and prokaryotic membrane proteins.	Nat Commun	9	4253	2018	10.1038/s41467-018-06702-3	mosquito LCP	LCP
Maria Martinez Molledo, Esben M Quistgaard, Ali Flayhan, Joanna Pieprzyk, Christian Löw	Multispecific Substrate Recognition in a Proton-Dependent Oligopeptide Transporter.	Structure	26	467-476	2018	10.1016/j.str.2018.01.005	mosquito LCP	LCP
Prakash Rucktooa, Robert K Y Cheng, Elena Segala, Tian Geng, James C Errey, Giles A Brown, Robert M Cooke, Fiona H Marshall, Andrew S Doré	Towards high throughput GPCR crystallography: In Meso soaking of Adenosine AA Receptor crystals	Sci Rep	8	41	2018	10.1038/s41598-017-18570-w	mosquito LCP	LCP

Structural biology resources

Authors	Title	Journal	Volume	Page	Year	DOI	Instrument	Notes
Wataru Shihoya, Tomohiro Nishizawa, Keitaro Yamashita, Asuka Inoue, Kunio Hirata, Francois Marie Ngako Kadji, Akiko Okuta, Kazutoshi Tani, Junken Aoki, Yoshinori Fujiyoshi, Tomoko Doi, Osamu Nureki	X-ray structures of endothelin ETB receptor bound to clinical antagonist bosentan and its analog.	Nat Struct Mol Biol	24	758-764	2017	10.1038/nsmb.3450	mosquito LCP	LCP
Wendy Gaisford, Gebhard Schertler, Pat Edwards	mosquito® LCP: Making membrane protein crystallization accessible to the research scientist	Nat Methods	8	i-ii	2011	10.1038/nmeth.f.345	mosquito LCP	hanging drop; sitting drop
Christopher A Kors, Ellen Wallace, Douglas R Davies, Liang Li, Philip D Laible, Peter Nollert	Effects of impurities on membrane-protein crystallization in different systems.	Acta Cryst D	65	1062-1073	2009	10.1107/s0907444909029163	mosquito LCP	LCP
Andrew R Tyler, Ronnie Ragbirsingh, Charles J McMonagle, Paul G Waddell, Sarah E Heaps, Jonathan W Steed, Paul Thaw, Michael J Hall, Michael R Probert	Encapsulated Nanodroplet Crystallization of Organic-Soluble Small Molecules	Chem	6	1755-1765	2020	10.1016/j.chempr.2020.04.009	mosquito crystal	small molecule
Mintu Chandra, Yanni K-Y Chin, Caroline Mas, J Ryan Feathers, Blessy Paul, Sanchari Datta, Kai-En Chen, Xinying Jia, Zhe Yang, Suzanne J Norwood, Biswaranjan Mohanty, Andrea Bugarcic, Rohan D Teasdale, W Mike Henne, Mehdi Mobli, Brett M Collins	Classification of the human phox homology (PX) domains based on their phosphoinositide binding specificities.	Nat Commun	10	1528	2019	10.1038/s41467-019-09355-y	mosquito crystal	sitting drop
María-Natalia Lisa, Virginija Cvirkaite-Krupovic, Evelyne Richet, Gwenaëlle André-Leroux, Pedro M Alzari, Ahmed Haouz, Olivier Danot	Double autoinhibition mechanism of signal transduction ATPases with numerous domains (STAND) with a tetratricopeptide repeat sensor.	Nucleic Acids Res	47	3795-3810	2019	10.1093/nar/gkz112	mosquito crystal	sitting drop
M Ejby, A Guskov, M J Pichler, G C Zanten, E Schoof, W Saburi, D J Slotboom, M Abou Hachem	Two binding proteins of the ABC transporter that confers growth of Bifidobacterium animalis subsp. lactis ATCC27673 on β-mannan possess distinct manno-oligosaccharide-binding profiles.	Mol Microbiol	112	114-130	2019	10.1111/mmi.14257	mosquito crystal	hanging drop; sitting drop
Dukas Jurėnas, Laurence Van Melderen, Abel Garcia-Pino	Mechanism of regulation and neutralization of the AtaR-AtaT toxin-antitoxin system.	Nat Chem Biol	15	285-294	2019	10.1038/s41589-018-0216-z	mosquito crystal	
Yonca Ural-Blimke, Ali Flayhan, Jan Strauss, Vasileios Rantos, Kim Bartels, Rolf Nielsen, Els Pardon, Jan Steyaert, Jan Kosinski, Esben M Quistgaard, Christian Löw	Structure of Prototypic Peptide Transporter DtpA from E. coli in Complex with Valganciclovir Provides Insights into Drug Binding of Human PepT1.	J Am Chem Soc	141	2404-2412	2019	10.1021/jacs.8b11343	mosquito crystal	sitting drop

Structural biology resources

Authors	Title	Journal	Volume	Page	Year	DOI	Instrument	Notes
Robert M Cleverley, Zoe J Rutter, Jeanine Rismondo, Federico Corona, Ho-Ching Tiffany Tsui, Fuad A Alatawi, Richard A Daniel, Sven Halbedel, Orietta Massidda, Malcolm E Winkler, Richard J Lewis	The cell cycle regulator GpsB functions as cytosolic adaptor for multiple cell wall enzymes.	Nat Commun	10	261	2019	10.1038/s41467-018-08056-2	mosquito crystal	sitting drop
Jonathan J Ruprecht, Martin S King, Thomas Zögg, Antoniya A Aleksandrova, Els Pardon, Paul G Crichton, Jan Steyaert, Edmund R S Kunji	The Molecular Mechanism of Transport by the Mitochondrial ADP/ATP Carrier.	Cell	176	435-447	2019	10.1016/j.cell.2018.11.025	mosquito crystal	sitting drop
Hong-Hsiang Guan, Yin-Cheng Hsieh, Pei-Ju Lin, Yen-Chieh Huang, Masato Yoshimura, Li-Ying Chen, Shao-Kang Chen, Phimonphan Chuankhayan, Chien-Chih Lin, Nai-Chi Chen, Atsushi Nakagawa, Sunney I Chan, Chun-Jung Chen	Structural insights into the electron/proton transfer pathways in the quinol: fumarate reductase from Desulfovibrio gigas.	Sci Rep	8	14935	2018	10.1038/s41598-018-33193-5	mosquito crystal	hanging drop
Ivan Laponogov, Xiao-Su Pan, Dennis A Veselkov, Galyna B Skamrova, Trishant R Umrekar, L Mark Fisher, Mark R Sanderson	Trapping of the transport-segment DNA by the ATPase domains of a type II topoisomerase.	Nat Commun	9	2579	2018	10.1038/s41467-018-05005-x	mosquito crystal	sitting drop
John W Patrick, Christopher D Boone, Wen Liu, Gloria M Conover, Yang Liu, Xiao Cong, Arthur Laganowsky	Allostery revealed within lipid binding events to membrane proteins	Proc Natl Acad Sci USA	115	2976-2981	2018	10.1073/pnas.1719813115	mosquito crystal	hanging drop
Jan Kutner, Ivan G Shabalin, Dorota Matelska, Katarzyna B Handing, Olga Gasiorowska, Piotr Sroka, Maria W Gorna, Krzysztof Ginalski, Krzysztof Wozniak, Wladek Minor	Structural, Biochemical, and Evolutionary Characterizations of Glyoxylate/Hydroxypyruvate Reductases Show Their Division into Two Distinct Subfamilies.	Biochemistry	57	963-977	2018	10.1021/acs.biochem.7b01137	mosquito crystal	sitting drop
Benjamin Rothé, Catherine N Leettola, Lucia Leal-Esteban, Duilio Cascio, Simon Fortier, Manuela Isenschmid, James U Bowie, Daniel B Constam	Crystal Structure of Bicc1 SAM Polymer and Mapping of Interactions between the Ciliopathy-Associated Proteins Bicc1, ANKS3, and ANKS6.	Structure	26	209-224	2018	10.1016/j.str.2017.12.002	mosquito crystal	hanging drop
Vanessa Vega-García, Adelaida Díaz-Vilchis, Juan Pablo Saucedo-Vázquez, Alejandro Solano-Peralta, Enrique Rudiño-Piñera, Wilhelm Hansberg	Structure kinetics, molecular and redox properties of a cytosolic and developmentally regulated fungal catalase-peroxidase.	Arch Biochem Biophys	640	17-26	2018	10.1016/j.abb.2017.12.021	mosquito crystal	sitting drop
Mitra S Rana, Pramod Kumar, Chul-Jin Lee, Raffaello Verardi, Kanagalaghatta R Rajashankar, Anirban Banerjee	Fatty acyl recognition and transfer by an integral membrane S-acyltransferase	Science	359	eaao6326	2018	10.1126/science.aao6326	mosquito crystal	LCP

Structural biology resources

Authors	Title	Journal	Volume	Page	Year	DOI	Instrument	Notes
Aleksandra E Sikora, Igor H Wierzbicki, Ryszard A Zielke, Rachael F Ryner, Konstantin V Korotkov, Susan K Buchanan, Nicholas Noinaj	Structural and functional insights into the role of BamD and BamE within the β-barrel assembly machinery in Neisseria gonorrhoeae.	J Biol Chem	293	1106-1119	2018	10.1074/jbc.ra117.000437	mosquito crystal	hanging drop
Tengchuan Jin, Mo Huang, Jiansheng Jiang, Patrick Smith, Tsan Sam Xiao	Crystal structure of human NLRP12 PYD domain and implication in homotypic interaction.	PLoS One	13	e0190547	2018	10.1371/journal.pone.0190547	mosquito crystal	hanging drop
Gunjan Gautam, Syed Arif Abdul Rehman, Preeti Pandey, Samudrala Gourinath	Crystal structure of the PEG-bound SH3 domain of myosin IB from Entamoeba histolytica reveals its mode of ligand recognition.	Acta Cryst D	73	672-682	2017	10.1107/s2059798317009639	mosquito crystal	hanging drop
Amal Baklouti, Adeline Goulet, Julie Lichière, Bruno Canard, Rémi N Charrel, François Ferron, Bruno Coutard, Nicolas Papageorgiou	Toscana virus nucleoprotein oligomer organization observed in solution.	Acta Cryst D	73	650-659	2017	10.1107/s2059798317008774	mosquito crystal	hanging drop
Laziana Ahmad, Elizabeth L Rylott, Neil C Bruce, Robert Edwards, Gideon Grogan	Structural evidence for Arabidopsis glutathione transferase AtGSTF2 functioning as a transporter of small organic ligands.	FEBS Open Bio	7	122-132	2016	10.1002/2211-5463.12168	mosquito crystal	sitting drop
Michael Collazo, Soheila Vaezeslami, Sarah Burl	Improving the Crystallization Process for Optimal Drug Development	American Laboratory			2014	americanlaboratory.com/914-Application-Notes/158649-Improving-the-Crystallization-Process-for-Optimal-Drug-Development/	mosquito crystal; mosquito LCP	optimization; sitting drop
Ryosuke Nakashima, Keisuke Sakurai, Seiji Yamasaki, Katsuhiko Hayashi, Chikahiro Nagata, Kazuki Hoshino, Yoshikuni Onodera, Kunihiko Nishino, Akihito Yamaguchi	Structural basis for the inhibition of bacterial multidrug exporters.	Nature	500	102-106	2013	10.1038/nature12300	mosquito crystal; mosquito LCP	
Kaspar Hollenstein, James Kean, Andrea Bortolato, Robert K Y Cheng, Andrew S Doré, Ali Jazayeri, Robert M Cooke, Malcolm Weir, Fiona H Marshall	Structure of class B GPCR corticotropin-releasing factor receptor.	Nature	499	438-443	2013	10.1038/nature12357	mosquito crystal; mosquito LCP	
Akiko Koide, John Wojcik, Ryan N Gilbreth, Robert J Hoey, Shohei Koide	Teaching an Old Scaffold New Tricks: Monobodies Constructed Using Alternative Surfaces of the FN3 Scaffold.	J Mol Biol	415	393-405	2012	10.1016/j.jmb.2011.12.019	mosquito crystal; mosquito LCP	hanging drop
Tinatin I Brelidze, Anne E Carlson, Banumathi Sankaran, William N Zagotta	Structure of the carboxy-terminal region of a KCNH channel.	Nature	481	530-531	2012	10.1038/nature10735	mosquito crystal; mosquito LCP	sitting drop

Structural biology resources

Authors	Title	Journal	Volume	Page	Year	DOI	Instrument	Notes
Aram Chang, Shanteri Singh, Kate E Helmich, Randal D Goff, Craig A Bingman, Jon S Thorson, George N Phillips Jr	Complete set of glycosyltransferase structures in the calicheamicin biosynthetic pathway reveals the origin of regiospecificity.	Proc Natl Acad Sci USA	108	17649-54	2011	10.1073/pnas.1108484108	mosquito crystal; mosquito LCP	sitting drop
Ilka Müller, Marieke B A C Lamers, Alison J Ritchie, Hyunsun Park, Celia Dominguez, Ignacio Munoz-Sanjuan, Michel Maillard, Alex Kiselyov	A new apo-caspase-6 crystal form reveals the active conformation of the apoenzyme.	J Mol Biol	410	307-315	2011	10.1016/j.jmb.2011.05.020	mosquito crystal; mosquito LCP	sitting drop
Yelena Koldobskaya, Erica M Duguid, David M Shechner, Nikolai B Suslov, Jingdong Ye, Sachdev S Sidhu, David P Bartel, Shohei Koide, Anthony A Kossiakoff, Joseph A Piccirilli	A portable RNA sequence whose recognition by a synthetic antibody facilitates structural determination.	Nat Struct Mol Biol	18	100-106	2011	10.1038/nsmb.1945	mosquito crystal; mosquito LCP	sitting drop
Akira Watanabe, Seungho Choe, Vincent Chaptal, John M Rosenberg, Ernest M Wright, Michael Grabe, Jeff Abramson	The mechanism of sodium and substrate release from the binding pocket of vSGLT.	Nature	468	988-991	2010	10.1038/nature09580	mosquito crystal; mosquito LCP	sitting drop
Chu Wai Liew, Huaiyu Sun, Tony Hunter, Catherine L Day	RING domain dimerization is essential for RNF4 function.	Biochem J	431	23-29	2010	10.1042/bj20100957	mosquito crystal; mosquito LCP	sitting drop
Luis G Cuello, Vishwanath Jogini, D Marien Cortes, Albert C Pan, Dominique G Gagnon, Olivier Dalmas, Julio F Cordero-Morales, Sudha Chakrapani, Benoît Roux, Eduardo Perozo	Structural basis for the coupling between activation and inactivation gates in K(+) channels.	Nature	466	272-275	2010	10.1038/nature09136	mosquito crystal; mosquito LCP	sitting drop
Luis G Cuello, Vishwanath Jogini, D Marien Cortes, Eduardo Perozo	Structural mechanism of C-type inactivation in K(+) channels.	Nature	466	203-208	2010	10.1038/nature09153	mosquito crystal; mosquito LCP	sitting drop
Bjorn Vergauwen, Jonathan Elegheert, Ann Dansercoer, Bart Devreese, Savvas N Savvides	Glutathione import in Haemophilus influenzae Rd is primed by the periplasmic heme-binding protein HbpA.	Proc Natl Acad Sci USA	107	13270-13275	2010	10.1073/pnas.1005198107	mosquito crystal; mosquito LCP	sitting drop
Joby Jenkins	Protein Crystallography: Automating a temperamental science.	Lab Manager			2007	labmanager.com/laboratory-technology/protein-crystallography-automating-a-temperamental-science-21109	mosquito crystal; mosquito LCP	sitting drop
Janet Newman, David Egan, Thomas S Walter, Ran Meged, Ian Berry, Marouane Ben Jelloul, Joel L Sussman, David I Stuart, Anastassis Perrakis	Towards rationalization of crystallization screening for small- to medium-sized academic laboratories: the PACT/JCSG+ strategy.	Acta Cryst D	61	1426-1431	2005	10.1107/s0907444905024984	mosquito crystal; mosquito LCP	hanging drop; sitting drop