

PL3011: Key publications on the characterization of protein hetero-association by CG-MALS

Summary

This document lists key publications using CG-MALS for the characterization of specific hetero-association in proteins and other biomacromolecules.

Overview

- Light-scattering-based analysis of biomolecular interactions

Some, D., *Biophys. Rev.* **5**(2), 147–158 (2013)
<https://doi.org/10.1007/s12551-013-0107-1>

- Characterization of Protein-Protein Interactions via Static and Dynamic Light Scattering

Some, D. & Kenrick, S.. in Protein Interactions (InTech, 2012).
<https://doi.org/10.5772/37240>

Validation studies

- Composition gradient static light scattering: A new technique for rapid detection and quantitative characterization of reversible macromolecular hetero-associations in solution

Attri, A. K. & Minton, A. P. *Anal. Biochem.* **346**, 132–138 (2005)
<http://doi.org/10.1016/j.ab.2005.08.013>

- Rapid quantitative characterization of protein interactions by composition gradient static light scattering

Kameyama, K. & Minton, A. P. *Biophys. J.* **90**, 2164–2169 (2006)
<https://doi.org/10.1529/biophysj.105.074310>

- Comparison of composition-gradient sedimentation equilibrium and composition-gradient static light scattering as techniques for quantitative characterization of biomolecular interactions: A case study

Arisaka, F., Niimura, Y. & Minton, A. P. *Anal. Biochem.* **583** (2019)
<http://doi.org/10.1016/j.ab.2019.06.010>

Basic case studies

- Quantitative characterization of heparin binding to tau protein: Implication for inducer-mediated tau filament formation

Zhu, H. L. et al. *J. Biol. Chem.* **285**, 3592–3599 (2010).

Beyond 1:1 complexes

- Structures of Ebola virus GP and sGP in complex with therapeutic antibodies

Pallesen, J. et al. *Nat. Microbiol.* **1**, 16128 (2016)
<http://doi.org/10.1038/nmicrobiol.2016.128>

- Convergent Structures Illuminate Features for Germline Antibody Binding and Pan-Lassa Virus Neutralization

Hastie, K.M. et al. *Cell* **178**(4), 1004-1015 (2019).
<https://doi.org/10.1016/j.cell.2019.07.020>

- Characterization of self-association and heteroassociation of bacterial cell division proteins FtsZ and ZipA in solution by composition gradient-static light scattering

Martos, A. et al. *Biochemistry* **49**, 10780–10787 (2010)
<http://doi.org/10.1021/bi101495x>

- Calcium-dependent stoichiometries of the KCa2.2 (SK) intracellular domain/calmodulin complex in solution

Halling, D. B., Kenrick, S. A., Riggs, A. F. & Aldrich, R. W. *J. Gen. Physiol.* **143**, 231–252 (2014)
<http://doi.org/10.1085/jgp.201311007>

- Calcium dependence of both lobes of calmodulin is involved in binding to a cytoplasmic domain of SK channels

Halling, D.B., Philpo, A.E., Aldrich, R.W. *eLife* **11**, e81303 (2022). <https://doi.org/10.7554/eLife.81303>

- Mechanistic insights into the recycling machine of the SNARE complex

Zhao, M. et al. *Nature* **518**, 61–67 (2015).
<http://doi.org/10.1038/nature14148>

- The mechanistic understanding of RAD51 defibrillation: a critical step in BRCA2-mediated DNA repair by homologous recombination

Schipani, F. et al. *Int. J. Mol. Sci.* **23**(15), 8338 (2022).
<https://doi.org/10.3390/ijms23158338>



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