

# PL3010: Key publications on the characterization of protein self-association by CG-MALS

## Summary

This document lists key publications using CG-MALS for the characterization of specific self-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>
- [New methods for measuring macromolecular interactions in solution via static light scattering: basic methodology and application to nonassociating and self-associating proteins](#)  
Attri, A.K. and Minton, A.P. *Anal Biochem* **337**, 103–110 (2005)  
<https://doi.org/10.1016/j.ab.2004.09.045>
- [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>

## Peptides

- [Interactions between peptide and preservatives: effects on peptide self-interactions and antimicrobial efficiency in aqueous multi-dose formulations](#)  
Heljo, P. et al, *Pharm Res* **32**, 3201–3212 (2015).  
<https://doi.org/10.1007/s11095-015-1697-z>
- [pH-dependent self-association of zinc-free insulin characterized by concentration-gradient static light scattering](#)  
Attri, A. K., Fernández, C. & Minton, A. P. *Biophys Chem* **148**, 28–33 (2010).  
<https://doi.org/10.1016/j.bpc.2010.02.002>
- [Self-association of Zn-insulin at neutral pH: Investigation by concentration gradient-static and dynamic light scattering](#)  
Attri, A. K., Fernández, C. & Minton, A. P. *Biophys. Chem.* **148**, 23–27 (2010)  
<http://doi.org/10.1016/j.bpc.2010.02.001>
- [Quaternary conformational stability: The effect of reversible self-association on the fibrillation of two insulin analogs](#)  
Ludwig, D.B. et al. *Biotech Bioeng* **108**(10), 2359–2370 (2011). <https://doi.org/10.1002/bit.23188>

## IgG and IgG-like proteins

- Characterizing reversible protein association at moderately high concentration via composition-gradient static light scattering

Some, D., Pollastrini, J. & Cao, S. *J. Pharm. Sci.* **105**, 2310-2318 (2016)

<https://doi.org/10.1016/j.xphs.2016.05.018>

- Charge-mediated Fab-Fc interactions in an IgG1 antibody induce reversible self-association, cluster formation, and elevated viscosity

Arora, J. *et al.* *MAbs* **8**, 1561–1574 (2016).

<https://doi.org/10.1080/19420862.2016.1222342>

- Mechanism of Reversible Self-Association of a Monoclonal Antibody: Role of Electrostatic and Hydrophobic Interactions

Esfandiary, R., *et al.*, *J. Pharm. Sci.* **104**, 577–586 (2015).

<https://doi.org/10.1002/jps.24237>

- A systematic multitechnique approach for detection and characterization of reversible self-association during formulation development of therapeutic antibodies

Esfandiary, R. *et al.* *J. Pharm. Sci.* **102**, 3089–3099 (2013)

<https://doi.org/10.1002/JPS.23654>

- Effects of Monovalent Salt on Protein-Protein Interactions of Dilute and Concentrated Monoclonal Antibody Formulations

Xu, A.Y. *et al.* *Antibodies* **11**(2), 24 (2022).

<https://doi.org/10.3390/antib11020024>

## General

- 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).

<https://doi.org/10.1021/bi101495x>

- Higher-order oligomerization promotes localization of SPOP to liquid nuclear speckles

Marzahn, M.R. *et al.* *EMBO J.* **35**, 1254-1275 (2016).

<https://doi.org/10.15252/embj.201593169>

- Reduction of oligomer size modulates the competition between cluster formation and phase separation of the tumor suppressor SPOP

Sabri, N. *et al.* *J. Bio. Chem.* **299**(12), 105427 (2023).

<https://doi.org/10.1016/j.jbc.2023.105427>



© Wyatt Technology LLC. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of Wyatt Technology.

One or more of Wyatt Technology's trademarks or service marks may appear in this publication. For a list of Wyatt's trademarks and service marks, please see <https://www.wyatt.com/about/trademarks>.