

Publication

Screening crystallisation conditions using fluorescence correlation spectroscopy

JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)**ID** 4531065**Author(s)** Schmauder, R.; Schmidt, T.; Abrahams, J. P.; Kuil, M. E.**Author(s) at UniBasel** [Abrahams, Jan Pieter](#) ;**Year** 2002**Title** Screening crystallisation conditions using fluorescence correlation spectroscopy**Journal** Acta Crystallographica Section D: Structural Biology**Volume** 58**Number** Pt 10 Pt 1**Pages / Article-Number** 1536-41**Keywords** diffusion; lysozyme; fluorescence correlation spectroscopy; crystallisation conditions**Mesh terms** Science & TechnologyLife Sciences & BiomedicinePhysical SciencesBiochemical Research
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We investigate the potential of fluorescence correlation spectroscopy (FCS) in screening for crystallisation conditions. Solutions that nucleate protein crystals must have different interactions than solutions that do not give rise to crystals. Due to these different interactions the average mean squared displacement of the individual proteins changes. By monitoring protein self-diffusion, we can distinguish crystallising from non-crystallising solutions. The method introduced can be applied at extremely low concentrations in femtoliter volumes as an early diagnostic for molecular association. Based on our preliminary findings FCS has the potential to become a routine screening method for crystallography.

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