Robert A. Cross

Centre for Mechanochemical Cell Biology
Warwick Medical School
Coventry CV4 7AL UK
r.a.cross@warwick.ac.uk
http://mechanochemistry.org

Tel: +44 (0)2476 151165

Born 16.04.57, Duffield, Derbyshire, UK

EDUCATION

1983	PhD in Protein Biophysics (University of Nottingham)
1979	BSc in Biochemistry (University of Nottingham)

POSITIONS

2018 - 2022	Director, MSci Integrated Natural Sciences programme, Warwick
2009 -	Director, Centre for Mechanochemical Cell Biology, Warwick
2009 -	Professor of Mechanochemical Cell Biology, Warwick Medical School
1991 - 2009	Leader, Molecular Motors Group, Marie Curie Research Institute, UK
1988 - 1991	Research Staff, MRC LMB, Cambridge, UK

FELLOWSHIPS

1986 - 1988	MDA Fellow MRC LMB, Hills Rd, Cambridge CB2 2QH
1984 - 1986	EMBO Fellow OAW IMB, 5020 Salzburg, Austria

CURRENT SUPPORT

2020 - 2025	Wellcome Trust £1.66M Investigator award *Interlocking nanomechanics of kinesins and tubulins*

AWARDS

2024	Biochemical Society award for Sustained Excellence

COMMITTEE WORK

2015-2018	Wellcome ERG8 Molecular Basis of Cell Function

SCIENTIFIC INTERESTS

My lab studies the molecular mechanisms by which kinesins and microtubules generate force. I aim to contribute new understanding of this core aspect of eukaryotic self-organisation. Recently, I have been interested in how the mechanical cycles of kinesins and tubulins are coupled to one another, and how allosteric effectors affect this coupling. The view that kinesins and microtubules sense and adapt to each other's mechanical cycles is a paradigm shift for which we are partly responsible. My goal for the foreseeable future is to define how kinesins and tubulins detect, respond to and manipulate each other's mechanics and dynamics. Many drugs that are important for human health and for agriculture target the machinery of microtubule-based transport. Our work builds understanding of the mechanisms by which these drugs exert their effects on the transport machinery.

My lab also engineers new types of microscope and we continue to develop the Warwick Open Source Microscope, a hardware platform for advanced optical microscopy, aiming to benefit the global open microscopy community (*www.wosmic.org*).

BIOSKETCH

I am a molecular motors enthusiast. I obtained my PhD in **1983** from Nottingham University and then won an EMBO long-term fellowship to work with J. Victor Small and Apolinary Sobieszek in Salzburg on smooth muscle myosin. I made seminal discoveries regarding myosin self assembly (see below). In **1986** I moved to MRC-LMB as an MDA fellow and, working with John Kendrick Jones, Clive Bagshaw and Mike Geeves, was able to formulate an explicit mechanism for myosin II self-assembly. In **1991** I moved to Marie Curie Cancer Research Institute and began working on kinesin, then newly-discovered. We established key features of the stepping mechanisms of several kinesins. In **2009**, the MCRI closed and I moved, with Andrew McAinsh and Anne Straube and most of our lab members, to Warwick University, to co-found a new centre for mechanochemical cell biology, a term we coined. My current work reflects a paradigm shift in which we recognise that kinesins and microtubules sense and adapt to each other's mechanochemical cycles. We have discovered that kinesins make backslips rather than backsteps, and that kinesin strong binding stabilises and expands the lattice of GDP-microtubules. Most recently, we found that taxol has different effects on different human tubulin isotypes, and that ATPγS drives well-coordinated kinesin stepping under load.

TRAINING RECORD

Every person who has worked with me since I started my own lab in 1991 has been supported in their further development. A full list is at https://mechanochemistry.org/Cross/alumni.php. PDRAs and students who have left my lab have been supported in taking away their projects and materials and I have further supported them closely in establishing themselves as independent scientists. All the PhD students I have supervised have graduated successfully. Examples:

Kurt Anderson (PDRA, 1998-2000) was my postdoc and now leads the centre for advanced light microscopy at the Crick Institute.

Andrew Lockhart (PDRA, 1991-1996) was my first postdoc. He is now head of GSK R&D Neuroscience China.

Junichiro Yajima (PDRA, 2003-2008) and I developed several novel single molecule methodologies for analysis of the kinesin mechanism. Jun is now an Associate Professor with his own lab in Tokyo University.

Miho Katsuki (PDRA, 2006-2012) worked with me on microtubule polymerases and microtubule lattice conformation. Miho now has her own lab in Fukuoka University.

Douglas Drummond (PDRA/sPDRA, 2003-2015) was my right-hand man for many years. Doug and Miho Katsuki married in 2012 and Doug moved to a full professorship at Kyushu University in Fukuoka.

Algirdas Toleikis (PDRA 2015-2020) discovered that kinesins slip backwards rather than stepping backwards. Algis won a highly prestigious EMBO Installation Grant to start his own lab in Lithuania.

I have trained 7 technicians. **Christina Hoey** (RA 2002-2005), **Michael Osei** (RA 2005-2007), **Virginia (Wai Chun) Tse** (RA 2019-2020) and **Rebecca Sipthorpe** (RA 2019-2020) all went on to take up PhD studentships. **Thilani Babuji** (RA 2021-2023) just started her PhD at Bristol. **Naomi Shepherd** (RA 2018-2021) left to focus on powerlifting and is now world champion in her weight category.

I am in touch with everybody. **Jun Yajima**, **Doug Drummond** and **Algis Toleikis** are current collaborators.

CONFERENCE ORGANISATION

I have organised a number of international conferences on molecular motors:

2018	**CMCB-Randall** meeting *"Mechanobiology at the Shard II"*
2017	**CMCB-Randall** meeting *"Mechanobiology at the Shard"*
2013	**BSCB** Spring meeting *"Mechanochemical Cell Biology"*
2012	**JSPS** Japan-UK international symposium on *Mechanochemical Cell Biology*
2008	**MCRI** Spring Workshop Microtubule Dynamics
2005	**EMBO** workshop / Harden Conference in Cambridge, UK *Molecular Motors*
1993-2008	**Marie Curie** international workshops on *Molecular Motors*
1998	**FEBS** Advanced Course at MCRI, *Molecular Motors*
1993	**EMBO** workshop in Cambridge, UK *Molecular Motors*
1991	**Wellcome Trust** Frontiers in Science congress *Molecular Motors*
1990	**EMBO** workshop in Maria Alm, *Smooth Muscle Contraction*

OTHER CONTRIBUTIONS TO RESEARCH CULTURE

The Centre for Mechanochemical Cell Biology at Warwick (www.mechanochemistry.org), of which I am founding director, hosts currently 20 research groups from 5 Warwick departments (Life Sciences, Physics, Maths, Computing, Medical School) all of whom interrogate the mechanochemical mechanisms of living systems. My goal has been to develop an optimal physical and intellectual research environment for this work and we are succeeding in this.

The CMCB was an early signatory of SF-DORA and we continue to promote Open Science. I am much invested also in educating the next generation of mechanochemical cell biologists, via postgraduate training and also, from **2020**, via an innovative undergraduate course at Warwick, CF10 MSci Integrated Natural Sciences, of which I am co-founder and co-director. This course is intended as a UK version of the Integrated Science programs at Princeton and Harvard, aiming to teach undergraduates practical quantitative biology *sans frontiers.*

In connection with this course, my lab has developed an educational version of our Warwick Open Source Microscope, the eduWOSM. Both researchers and educators are adopting and developing our designs, including internationally.

I am a Wellcome Investigator and until recently was a member of the Wellcome Expert Review Group in the Molecular Basis of Cell Function.

FUNDING RECORD

2020 - 2025	**Wellcome £1.68M** *Investigator award*
2023 – 2024.	**BBSRC** ALERT 22 **£767K** – bioAFM with Mishima (PI)
2017 - 2021	**Leverhulme Trust £256K** – with Anne Straube & Marco Polin
2015 -	**BBSRC** *ALERT14* **£0.74M** – with Royle (PI), McAinsh/Smith/Cross/Frigerio
2014 - 2019	**Wellcome Trust £1.2M** *Senior Investigator award*
2013 - 2017	**WPHCT £100K** *Warwick Open Source Microscope (http://WOSMic.org)*
2013 - 2017	**BBSRC £0.55M** *Chemical Biology of Microtubules* (IPA with Syngenta)
2009-2012	**EPSRC £0.2M** *Programmable kinesin shuttle (with A. Turberfield, Oxford)*
2009-2012	**BBSRC £0.2M** *Kinesin-DNA chimeras (with A. Turberfield, Oxford)*
2009-2012	**AICR £0.2M** *Single molecule analysis of microtubule tip tracking in vitro*
2009-	**Marie Curie Cancer Care £1.23M** transitional programme funding
2004-2009	**MRC Strategic Grant £0.5M** *High resolution structure-function of tubulin*
2006-2009	**CRUK £0.15M** *Reconstitution of S. pombe microtubule dynamics in vitro*
2003-2009	Co-holder on **EPSRC Nanotechnology** network grant **£9M**
1999-2003	**HFSP** network grant ~**£1M** (between 5 labs)

Between 1991 and 2009, work in my MCRI group was consistently rated Alpha-A at external quincennial review using the MRC scales (the highest possible category). Marie Curie core finding allowed me to maintain a lab of 4-6 people and to pursue important long-term projects such as the construction of our optical trap.

Whilst at MCRI we were mostly ineligible for external funding. When opportunities opened, I generally applied and mostly succeeded in winning grants. From 1999-2003 we were part of a really excellent Human Frontiers Science Programme network Dynamics of the kinesin tubulin interface involving Hideo Higuchi, Joe Howard, Sharyn Endow, Keiko Hirose and myself. This grant was ranked first out of 250 applications in its round. In 2003 the MRC briefly ran a scheme called Strategic Grants, which allowed them to fund programmes of exceptional merit that fell outside the normal rules – we won a 5 yr strategic grant in a falling market to work on tubulin structure function in collaboration with Linda Amos and Jan Löwe at MRC-LMB. I obtained an SERC project grant when I first set up my lab in 1991, but MCRI was subsequently declared ineligible. In 2002 I tried an application to BBSRC and my proposal was exceptionally well reviewed, but then disallowed. In 2007, I sought to submit a LoLa application to BBSRC, but again MCRI eligibility proved an insurmountable hurdle. In 2005, CRUK agreed to consider one application from MCRI and our project to reconstitute *S. pombe* microtubule dynamics was fully funded, after which we were again shut out. In 2009 AICR made Miho Katsuki and I a 3 year project grant to carry on this work. This grant was amongst the 7% of grants funded in that round. We were invited to join a £9M bionano IRC based in Oxford Physics. Following on from the IRC, Andrew Turberfield and I obtained a responsive-mode EPSRC grant to continue work that used DNA self-assembly to control kinesin-driven motility. A related BBSRC application was also successful. Both these grants were held at Oxford, but the 3 workers split their time between our labs.

In late 2009, I was awarded £1.23M transitional programme funding from Marie Curie Cancer Care, in a competitive process again involving external peer review. This award funded my startup at Warwick. The move to Warwick, completed in Feb 2010, enabled us to create a new centre, the Centre for Mechanochemical Cell Biology, of which I am director. We built a new building to house the centre. UoW contributed £3.4M, AWM (the regional development agency) contributed £2.2M and the Wolfson Trust contributed £1M. Construction began in Sept 2010 and completed one year later. UoW also provided £1.5M towards the purchase of microscopy and other equipment for the new centre. Three years later we extended the building, fully funded by UoW.

MOST SIGNIFICANT CONTRIBUTIONS

2023 YM Chew, RA Cross (2023)
Taxol acts differently on different tubulin isotypes
Communications Biology 6 (1), 946
• Reveals that taxol changes the conformation of only some human tubulin isotypes. Our work has the potential to influence practice.

2020 A Toleikis, NJ Carter, RA Cross (2020)
Backstepping mechanism of kinesin-1
Biophysical Journal 119 (10), 1984-1994
• Shows that kinesin-1 backsteps are not strides, but slips.

2018 Peet DR, Burroughs NJ, Cross RA (2018)
Kinesin expands and stabilizes the GDP- microtubule lattice
Nature Nanotechnology 13 386-391
• Shows that kinesin is a powerful allosteric effector for tubulin that stabilizes and expand the microtubule lattice.

2016 Britto M, Goulet A, Rizvi S, von Loeffelholz O, Moores, CA, Cross RA (2016)
S. pombe kinesin-5 switches direction using a steric blocking mechanism
Proceedings of the National Academy of Sciences 113, E7483-E7489
• Shows that physical crowding of kinesin-5 motors on the *S. pombe* microtubule lattice reverses their stepping action.

2011 Grant BJ, Gheorghe DM, Zheng W, Alonso M, Huber G, Dlugosz M, McCammon JA , Cro RA (2011)
Electrostatically biased binding of kinesin to microtubules
PLoS Biology 9 (11), e1001207 d
• Incipient kinesin motors deviate towards the plus end just before they bind to microtubules.

2007 Alonso MC, Drummond DR, Kain S, Hoeng J, Amos LA & Cross RA (2007)
An ATP-gate controls tubulin binding by the tethered head of kinesin-1
Science 316 120-123
• ATP binding to one kinesin head regulates the ability of the other to bind to tubulin. This trigger mechanism provides the basis for controlling the stepping action of kinesin.

2005 Carter NJ & Cross RA (2005)
Mechanics of the kinesin step
Nature 435 308-12
• Using single molecule optical trapping, we discovered that kinesin-1 can step processiv backwards under load.

2005 Yajima J & Cross RA (2005)
A torque component in the kinesin-1 power stroke
Nature Chemical Biology 1 338-341
• Kinesin uses ATP turnover to generate impulses of force and movement. We establish here that this impulse includes an off-axis component.

2004 Crevel I, Nyitray M, Weiss S, Geeves MA, Cross RA (2004)
What kinesin does at roadblocks: the coordination mechanism for molecular walkin
EMBO J 23 23-32
• Establishes that kinesins that hit an obstacle retry forward stepping multiple times befor dissociating.

2000 Drummond DR & Cross RA (2000)
Dynamics of interphase microtubules in Schizosacharomyces pombe
Current Biology 10 766-775
• Pioneering quantitative cell biological study, establishing that microtubules catastrophis under compression at cell ends, blazing the trail for much subsequent work.

1996 Hirose, K., Lockhart, A. Cross, R.A. and Amos,L.A. (1996)
Three dimensional cryoEM of dimeric kinesin and ncd motor domains on microtubul
PNAS 93 9539-9544
• With Linda Amos & Keiko Hirose, pioneering cryoEM reconstructions of kinesin states.

1995 Hirose K, Lockhart A., Cross RA & Amos LA (1995)
Nucleotide-dependent angular change in kinesin motor domain bound to tubulin
Nature 376 277-279
• With Linda Amos & Keiko Hirose, we did pioneering EM of kinesin states.

1994 Lockhart A and Cross RA (1994)
Origins of reversed directionality in the ncd molecular motor
EMBO J. 13 751-757
• Establishes that ncd, a reverse-directed kinesin, binds the same microtubule site and executes much the same chemical kinetic cycle as kinesin-1.

1992 TP Hodge, R Cross, J Kendrick-Jones (1992)
Role of the COOH-terminal nonhelical tailpiece in the assembly of a vertebrate nonmuscle myosin rod
The Journal of cell biology 118 (5), 1085-1095
• Follows up on our 1986 discovery that smooth muscle myosin self-assembly is orchestrated by a C-terminal tailpiece.

1988 RA Cross, AP Jackson, S Citi, J Kendrick-Jones, CR Bagshaw (1988)
Active site trapping of nucleotide by smooth and non-muscle myosins
Journal of molecular biology 203 (1), 173-181
• Extends our earlier finding with smooth muscle myosin to nonmuscle myosins. Later, we extended further, to skeletal muscle myosins.

1986 RA Cross, KE Cross, A Sobieszek (1986)
ATP-linked monomer-polymer equilibrium of smooth muscle myosin: the free folded monomer traps ADP. Pi
The EMBO journal 5 (10), 2637-2641
• Reveals that formation of the compact 10s conformation of myosin traps the active site nucleotide, so that assembly is a requirement for ATP turnover.

1986 RA Cross, J Vandekerckhove (1986)
Solubility-determining domain of smooth muscle myosin rod
FEBS letters 200 (2), 355-360
• I discovered that a C-terminal section of the myosin tail is required for filament assembly

PUBLICATIONS 1983-2023

Google scholar https://scholar.google.co.uk/citations?hl=en&user=_iaVZaQAAAAJ

Chew YM, Cross RA (2023)
Taxol acts differently on different tubulin isotypes
Commun Biol. 2023 Sep 16;6(1):946.
doi: 10.1038/s42003-023-05306-y. PMID: 37717119; PMCID: PMC10505170.

Sugawa M, Maruyama Y, Yamagishi M, Cross RA, Yajima J. (2022)
Motor generated torque drives coupled yawing and orbital rotations of kinesin coated gold nanorods
Commun Biol. 2022 Dec 20;5(1):1368. doi: 10.1038/s42003-022-04304-w. PubMed PMID: 36539506; PubMed Central PMCID: PMC9767927.

Siddiqui N, Roth D, Toleikis A, Zwetsloot AJ, Cross RA, Straube A. (2022)
Force generation of KIF1C is impaired by pathogenic mutations
Curr Biol. 2022 Sep 12;32(17):3862-3870.e6. doi: 10.1016/j.cub.2022.07.029. Epub 2022 Aug 11. PubMed PMID: 35961316; PubMed Central PMCID: PMC9631238.

Toleikis A, Carter NJ, Cross RA (2020)
Backstepping Mechanism of Kinesin-1
Biophys J. 2020 Nov 17;119(10):1984-1994. doi: 10.1016/j.bpj.2020.09.034. Epub 2020 Oct 6. PubMed PMID: 33091340; PubMed Central PMCID: PMC7732724.

Chew YM, Cross RA (2020)
Molecular Motors: Kif14's Disordered Dongle
Curr Biol. 2020 Sep 7;30(17):R988-R991. doi: 10.1016/j.cub.2020.06.095. PubMed PMID: 32898497.

von Loeffelholz O, Peña A, Drummond DR, Cross R, Moores CA (2019)
Cryo-EM Structure (4.5-Å) of Yeast Kinesin-5-Microtubule Complex Reveals a Distinct Binding Footprint and Mechanism of Drug Resistance
J Mol Biol. 2019 Feb 15;431(4):864-872. doi: 10.1016/j.jmb.2019.01.011. Epub 2019 Jan 16. PubMed PMID: 30659798; PubMed Central PMCID: PMC6378684.

Cross RA (2019)
Microtubule lattice plasticity
Curr Opin Cell Biol. 2019 Feb;56:88-93. doi: 10.1016/j.ceb.2018.10.004. Epub 2018 Nov 8. Review. PubMed PMID: 30415187.

Meadows JC, Messin LJ, Kamnev A, Lancaster TC, Balasubramanian MK, Cross RA, Millar JB (2018)
Opposing kinesin complexes queue at plus tips to ensure microtubule catastrophe at cell ends
EMBO Rep. 2018 Nov;19(11). doi: 10.15252/embr.201846196. Epub 2018 Sep 11. PubMed PMID: 30206188; PubMed Central PMCID: PMC6216294.

McHugh T, Drechsler H, McAinsh AD, Carter NJ, Cross RA (2018)
Kif15 functions as an active mechanical ratchet
Mol Biol Cell. 2018 Jul 15;29(13):1743-1752. doi: 10.1091/mbc.E18-03-0151. Epub 2018 May 17. PubMed PMID: 29771628; PubMed Central PMCID: PMC6080711.

Peet DR, Burroughs NJ, Cross RA (2018)
Kinesin expands and stabilizes the GDP-microtubule lattice
Nat Nanotechnol. 2018 May;13(5):386-391. doi: 10.1038/s41565-018-0084-4. Epub 2018 Mar 12. PubMed PMID: 29531331; PubMed Central PMCID: PMC5937683.

von Loeffelholz O, Venables NA, Drummond DR, Katsuki M, Cross R, Moores CA (2017)
Nucleotide- and Mal3-dependent changes in fission yeast microtubules suggest a structural plasticity view of dynamics

Nat Commun. 2017 Dec 13;8(1):2110. doi: 10.1038/s41467-017-02241-5. PubMed PMID: 29235477; PubMed Central PMCID: PMC5727398.

Cross R, Veigel C (2017)
Molecular machines
Biophys Rev. 2017 Aug;9(4):287-288. doi: 10.1007/s12551-017-0285-3. Epub 2017 Aug 7. PubMed PMID: 28786029; PubMed Central PMCID: PMC5578928.

Britto M, Goulet A, Rizvi S, von Loeffelholz O, Moores CA, Cross RA (2016)
Schizosaccharomyces pombe kinesin-5 switches direction using a steric blocking mechanism
Proc Natl Acad Sci U S A. 2016 Nov 22;113(47):E7483-E7489. doi: 10.1073/pnas.1611581113. Epub 2016 Nov 9. PubMed PMID: 27834216; PubMed Central PMCID: PMC5127321.

Huang J, Chew TG, Gu Y, Palani S, Kamnev A, Martin DS, Carter NJ, Cross RA, Oliferenko S, Balasubramanian MK (2016)
Curvature-induced expulsion of actomyosin bundles during cytokinetic ring contraction
Elife. 2016 Oct 13;5. doi: 10.7554/eLife.21383. PubMed PMID: 27734801; PubMed Central PMCID: PMC5077295.

Cross RA (2016)
Review: Mechanochemistry of the kinesin-1 ATPase
Biopolymers. 2016 Aug;105(8):476-82. doi: 10.1002/bip.22862. Review. PubMed PMID: 27120111; PubMed Central PMCID: PMC4924600.

Hussmann F, Drummond DR, Peet DR, Martin DS, Cross RA (2016)
Alp7/TACC-Alp14/TOG generates long-lived, fast-growing MTs by an unconventional mechanism
Sci Rep. 2016 Feb 11;6:20653. doi: 10.1038/srep20653. PubMed PMID: 26864000; PubMed Central PMCID: PMC4749977.

Andrecka J, Ortega Arroyo J, Lewis K, Cross RA, Kukura P (2016)
Label-free Imaging of Microtubules with Sub-nm Precision Using Interferometric Scattering Microscopy
Biophys J. 2016 Jan 5;110(1):214-7. doi: 10.1016/j.bpj.2015.10.055. PubMed PMID: 26745424; PubMed Central PMCID: PMC4806212.

Cross RA, McAinsh A (2014)
Prime movers: the mechanochemistry of mitotic kinesins
Nat Rev Mol Cell Biol. 2014 Apr;15(4):257-71. doi: 10.1038/nrm3768. Review. PubMed PMID: 24651543.

Klejnot M, Falnikar A, Ulaganathan V, Cross RA, Baas PW, Kozielski F (2014)
The crystal structure and biochemical characterization of Kif15: a bifunctional molecular motor involved in bipolar spindle formation and neuronal development
Acta Crystallogr D Biol Crystallogr. 2014 Jan;70(Pt 1):123-33. doi: 10.1107/S1399004713028721. Epub 2013 Dec 24. PubMed PMID: 24419385; PubMed Central PMCID: PMC3919264.

Katsuki M, Drummond DR, Cross RA (2014)
Ectopic A-lattice seams destabilize microtubules
Nat Commun. 2014;5:3094. doi: 10.1038/ncomms4094. PubMed PMID: 24463734; PubMed Central PMCID: PMC3921467.

Wollman AJ, Sanchez-Cano C, Carstairs HM, Cross RA, Turberfield AJ (2014)
Transport and self-organization across different length scales powered by motor proteins and programmed by DNA
Nat Nanotechnol. 2014 Jan;9(1):44-7. doi: 10.1038/nnano.2013.230. Epub 2013 Nov 10. PubMed PMID: 24213281; PubMed Central PMCID: PMC3883648.

Carter NJ, Cross RA (2012)
Kinesin backsteps
Biochem Soc Trans. 2012 Apr;40(2):400-3. doi: 10.1042/BST20120008. Review. PubMed PMID: 22435819.

Erent M, Drummond DR, Cross RA (2012)
S. pombe kinesins-8 promote both nucleation and catastrophe of microtubules
PLoS One. 2012;7(2):e30738. doi: 10.1371/journal.pone.0030738. Epub 2012 Feb 20. PubMed PMID: 22363481; PubMed Central PMCID: PMC3282699.

Kaseda K, McAinsh AD, Cross RA (2012)
Dual pathway spindle assembly increases both the speed and the fidelity of mitosis
Biol Open. 2012 Jan 15;1(1):12-8. doi: 10.1242/bio.2011012. Epub 2011 Oct 24. PubMed PMID: 23213363; PubMed Central PMCID: PMC3507165.

Cross RA, McAinsh AD, Straube A (2011)
Mechanochemical cell biology
Semin Cell Dev Biol. 2011 Dec;22(9):913-5. doi: 10.1016/j.semcdb.2011.10.002. Epub 2011 Oct 7. PubMed PMID: 22001112.

Grant BJ, Gheorghe DM, Zheng W, Alonso M, Huber G, Dlugosz M, McCammon JA, Cross RA (2011)
Electrostatically biased binding of kinesin to microtubules
PLoS Biol. 2011 Nov;9(11):e1001207. doi: 10.1371/journal.pbio.1001207. Epub 2011 Nov 29. PubMed PMID: 22140358; PubMed Central PMCID: PMC3226556.

Katsuki M, Muto E, Cross RA (2011)
Preparation of dual-color polarity-marked fluorescent microtubule seeds
Methods Mol Biol. 2011;777:117-26. doi: 10.1007/978-1-61779-252-6_9. PubMed PMID: 21773925.

Drummond DR, Kain S, Newcombe A, Hoey C, Katsuki M, Cross RA (2011)
Purification of tubulin from the fission yeast Schizosaccharomyces pombe
Methods Mol Biol. 2011;777:29-55. doi: 10.1007/978-1-61779-252-6_3. PubMed PMID: 21773919.

Cross RA (2010)
Kinesin-14: the roots of reversal
BMC Biol. 2010 Aug 16;8:107. doi: 10.1186/1741-7007-8-107. PubMed PMID: 20731883; PubMed Central PMCID: PMC2922096.

Katsuki M, Drummond DR, Osei M, Cross RA (2009)
Mal3 masks catastrophe events in Schizosaccharomyces pombe microtubules by inhibiting shrinkage and promoting rescue
J Biol Chem. 2009 Oct 23;284(43):29246-50. doi: 10.1074/jbc.C109.052159. Epub 2009 Sep 9. PubMed PMID: 19740752; PubMed Central PMCID: PMC2764634.

Kaseda K, McAinsh AD, Cross RA (2009)
Walking, hopping, diffusing and braking modes of kinesin-5
Biochem Soc Trans. 2009 Oct;37(Pt 5):1045-9. doi: 10.1042/BST0371045. PubMed PMID: 19754449.

Braun M, Drummond DR, Cross RA, McAinsh AD (2009)
The kinesin-14 Klp2 organizes microtubules into parallel bundles by an ATP-dependent sorting mechanism
Nat Cell Biol. 2009 Jun;11(6):724-30. doi: 10.1038/ncb1878. Epub 2009 May 10. PubMed PMID: 19430466.

des Georges A, Katsuki M, Drummond DR, Osei M, Cross RA, Amos LA (2008)
Mal3, the Schizosaccharomyces pombe homolog of EB1, changes the microtubule lattice

Nat Struct Mol Biol. 2008 Oct;15(10):1102-8. doi: 10.1038/nsmb.1482. Epub 2008 Sep 14. PubMed PMID: 18794845; PubMed Central PMCID: PMC2575238.

Cross R (2008)
Single molecule for the people
Nat Cell Biol. 2008 Sep;10(9):1014. doi: 10.1038/ncb0908-1014. PubMed PMID: 18758487.

Kaseda K, Crevel I, Hirose K, Cross RA (2008)
Single-headed mode of kinesin-5
EMBO Rep. 2008 Aug;9(8):761-5. doi: 10.1038/embor.2008.96. Epub 2008 Jun 13. PubMed PMID: 18552767; PubMed Central PMCID: PMC2515207.

Dunn S, Morrison EE, Liverpool TB, Molina-París C, Cross RA, Alonso MC, Peckham M (2008)
Differential trafficking of Kif5c on tyrosinated and detyrosinated microtubules in live cells
J Cell Sci. 2008 Apr 1;121(Pt 7):1085-95. doi: 10.1242/jcs.026492. Epub 2008 Mar 11. PubMed PMID: 18334549.

Grant BJ, McCammon JA, Caves LS, Cross RA (2007)
Multivariate analysis of conserved sequence-structure relationships in kinesins: coupling of the active site and a tubulin-binding sub-domain
J Mol Biol. 2007 May 18;368(5):1231-48. doi: 10.1016/j.jmb.2007.02.049. Epub 2007 Mar 30. PubMed PMID: 17399740.

Alonso MC, Drummond DR, Kain S, Hoeng J, Amos L, Cross RA (2007)
An ATP gate controls tubulin binding by the tethered head of kinesin-1
Science. 2007 Apr 6;316(5821):120-3. doi: 10.1126/science.1136985. PubMed PMID: 17412962; PubMed Central PMCID: PMC2504013.

Moores CA, Perderiset M, Kappeler C, Kain S, Drummond D, Perkins SJ, Chelly J, Cross R, Houdusse A, Francis F (2006)
Distinct roles of doublecortin modulating the microtubule cytoskeleton
EMBO J. 2006 Oct 4;25(19):4448-57. doi: 10.1038/sj.emboj.7601335. Epub 2006 Sep 7. PubMed PMID: 16957770; PubMed Central PMCID: PMC1590004.

Skoufias DA, DeBonis S, Saoudi Y, Lebeau L, Crevel I, Cross R, Wade RH, Hackney D, Kozielski F (2006)
S-trityl-L-cysteine is a reversible, tight binding inhibitor of the human kinesin Eg5 that specifically blocks mitotic progression
J Biol Chem. 2006 Jun 30;281(26):17559-69. doi: 10.1074/jbc.M511735200. Epub 2006 Feb 28. PubMed PMID: 16507573.

Cross RA (2006)
Myosin's mechanical ratchet
Proc Natl Acad Sci U S A. 2006 Jun 13;103(24):8911-2. doi: 10.1073/pnas.0603213103. Epub 2006 Jun 5. PubMed PMID: 16754855; PubMed Central PMCID: PMC1482537.

Carter NJ, Cross RA (2006)
Kinesin's moonwalk
Curr Opin Cell Biol. 2006 Feb;18(1):61-7. doi: 10.1016/j.ceb.2005.12.009. Epub 2005 Dec 19. Review. PubMed PMID: 16361092.

Yajima J, Cross RA (2005)
A torque component in the kinesin-1 power stroke
Nat Chem Biol. 2005 Nov;1(6):338-41. doi: 10.1038/nchembio740. Epub 2005 Oct 9. PubMed PMID: 16408073.

Carter NJ, Cross RA (2005)

Mechanics of the kinesin step
Nature. 2005 May 19;435(7040):308-12. doi: 10.1038/nature03528. PubMed PMID: 15902249.

Eickel V, Drummond D, Carter N, Lockhart A, Jones JK, Cross R (2004)
Kinesin heads fused to hinge-free myosin tails drive efficient motility
FEBS Lett. 2004 Jul 2;569(1-3):54-8. doi: 10.1016/j.febslet.2004.05.050. PubMed PMID: 15225608.

Crevel IM, Alonso MC, Cross RA (2004)
Monastrol stabilises an attached low-friction mode of Eg5
Curr Biol. 2004 Jun 8;14(11):R411-2. doi: 10.1016/j.cub.2004.05.030. PubMed PMID: 15182685.

Cross RA (2004)
The kinetic mechanism of kinesin
Trends Biochem Sci. 2004 Jun;29(6):301-9. doi: 10.1016/j.tibs.2004.04.010. Review. PubMed PMID: 15276184.

Cross RA (2004)
Molecular motors: Dynein's gearbox
Curr Biol. 2004 May 4;14(9):R355-6. doi: 10.1016/j.cub.2004.04.026. Review. PubMed PMID: 15120091.

Cross RA (2004)
Molecular motors: kinesin's interesting limp
Curr Biol. 2004 Feb 17;14(4):R158-9. Review. PubMed PMID: 15027469.

Crevel IM, Nyitrai M, Alonso MC, Weiss S, Geeves MA, Cross RA (2004)
What kinesin does at roadblocks: the coordination mechanism for molecular walking
EMBO J. 2004 Jan 14;23(1):23-32. doi: 10.1038/sj.emboj.7600042. Epub 2003 Dec 18. PubMed PMID: 14685258; PubMed Central PMCID: PMC1271674.

DeBonis S, Simorre JP, Crevel I, Lebeau L, Skoufias DA, Blangy A, Ebel C, Gans P, Cross R, Hackney DD, Wade RH, Kozielski F (2003)
Interaction of the mitotic inhibitor monastrol with human kinesin Eg5
Biochemistry. 2003 Jan 21;42(2):338-49. doi: 10.1021/bi026716j. PubMed PMID: 12525161.

Drummond DR, Carter N, Cross RA (2002)
Multiphoton versus confocal high resolution z-sectioning of enhanced green fluorescent microtubules: increased multiphoton photobleaching within the focal plane can be compensated using a Pockels cell and dual widefield detectors
J Microsc. 2002 May;206(Pt 2):161-9. doi: 10.1046/j.1365-2818.2002.01024.x. PubMed PMID: 12000556.

Yajima J, Alonso MC, Cross RA, Toyoshima YY (2002)
Direct long-term observation of kinesin processivity at low load
Curr Biol. 2002 Feb 19;12(4):301-6. doi: 10.1016/s0960-9822(01)00683-2. PubMed PMID: 11864570.

Krylyshkina O, Kaverina I, Kranewitter W, Steffen W, Alonso MC, Cross RA, Small JV (2002)
Modulation of substrate adhesion dynamics via microtubule targeting requires kinesin-1
J Cell Biol. 2002 Jan 21;156(2):349-59. doi: 10.1083/jcb.200105051. Epub 2002 Jan 21. PubMed PMID: 11807097; PubMed Central PMCID: PMC2199234.

Kallipolitou A, Deluca D, Majdic U, Lakämper S, Cross R, Meyhöfer E, Moroder L, Schliwa M, Woehlke G (2001)
Unusual properties of the fungal conventional kinesin neck domain from Neurospora crassa
EMBO J. 2001 Nov 15;20(22):6226-35. doi: 10.1093/emboj/20.22.6226. PubMed PMID: 11707394; PubMed Central PMCID: PMC125726.

Rogers KR, Weiss S, Crevel I, Brophy PJ, Geeves M, Cross R (2001)
KIF1D is a fast non-processive kinesin that demonstrates novel K-loop-dependent mechanochemistry
EMBO J. 2001 Sep 17;20(18):5101-13. doi: 10.1093/emboj/20.18.5101. PubMed PMID: 11566875; PubMed Central PMCID: PMC125638.

Cross RA (2001)
Molecular motors: Kinesin's string variable
Curr Biol. 2001 Feb 20;11(4):R147-9. doi: 10.1016/s0960-9822(01)00064-1. Review. PubMed PMID: 11250171.

Carter N, Cross R (2001)
An improved microscope for bead and surface-based motility assays
Methods Mol Biol. 2001;164:73-89. doi: 10.1385/1-59259-069-1:73. Review. PubMed PMID: 11217617.

Hirose K, Henningsen U, Schliwa M, Toyoshima C, Shimizu T, Alonso M, Cross RA, Amos LA (2000)
Structural comparison of dimeric Eg5, Neurospora kinesin (Nkin) and Ncd head-Nkin neck chimera with conventional kinesin
EMBO J. 2000 Oct 16;19(20):5308-14. doi: 10.1093/emboj/19.20.5308. PubMed PMID: 11032798; PubMed Central PMCID: PMC313998.

Cross RA (2000)
Motor proteins. Directing direction
Nature. 2000 Aug 24;406(6798):839-40. doi: 10.1038/35022686. PubMed PMID: 10972272.

Drummond DR, Cross RA (2000)
Dynamics of interphase microtubules in Schizosaccharomyces pombe
Curr Biol. 2000 Jun 29;10(13):766-75. doi: 10.1016/s0960-9822(00)00570-4. PubMed PMID: 10898975.

Cross RA, Crevel I, Carter NJ, Alonso MC, Hirose K, Amos LA (2000)
The conformational cycle of kinesin
Philos Trans R Soc Lond B Biol Sci. 2000 Apr 29;355(1396):459-64. doi: 10.1098/rstb.2000.0587. Review. PubMed PMID: 10836499; PubMed Central PMCID: PMC1692756.

Anderson KI, Cross R (2000)
Contact dynamics during keratocyte motility
Curr Biol. 2000 Mar 9;10(5):253-60. doi: 10.1016/s0960-9822(00)00357-2. PubMed PMID: 10712904.

Cross RA, Carter NJ (2000)
Molecular motors
Curr Biol. 2000 Mar 9;10(5):R177-9. doi: 10.1016/s0960-9822(00)00368-7. PubMed PMID: 10712912.

Cross RA (2000)
Molecular motors: Kinesin's dynamically dockable neck
Curr Biol. 2000 Feb 10;10(3):R124-6. doi: 10.1016/s0960-9822(00)00309-2. PubMed PMID: 10679320.

Cross RA (1999)
Molecular motors: Walking talking heads
Curr Biol. 1999 Nov 18;9(22):R854-6. doi: 10.1016/s0960-9822(00)80045-7. Review. PubMed PMID: 10574754.

Crevel I, Carter N, Schliwa M, Cross R (1999)
Coupled chemical and mechanical reaction steps in a processive Neurospora kinesin
EMBO J. 1999 Nov 1;18(21):5863-72. doi: 10.1093/emboj/18.21.5863. PubMed PMID: 10545098; PubMed Central PMCID: PMC1171652.

Hirose K, Löwe J, Alonso M, Cross RA, Amos LA (1999)
3D electron microscopy of the interaction of kinesin with tubulin
Cell Struct Funct. 1999 Oct;24(5):277-84. doi: 10.1247/csf.24.277. PubMed PMID: 15216883.

Hirose K, Löwe J, Alonso M, Cross RA, Amos LA (1999)
Congruent docking of dimeric kinesin and ncd into three-dimensional electron cryomicroscopy maps of microtubule-motor ADP complexes
Mol Biol Cell. 1999 Jun;10(6):2063-74. doi: 10.1091/mbc.10.6.2063. PubMed PMID: 10359615; PubMed Central PMCID: PMC25414.

Mazumdar M, Cross RA (1998)
Engineering a lever into the kinesin neck
J Biol Chem. 1998 Nov 6;273(45):29352-9. doi: 10.1074/jbc.273.45.29352. PubMed PMID: 9792635.

Hirose K, Cross RA, Amos LA (1998)
Nucleotide-dependent structural changes in dimeric NCD molecules complexed to microtubules
J Mol Biol. 1998 May 1;278(2):389-400. doi: 10.1006/jmbi.1998.1709. PubMed PMID: 9571059.

Alonso MC, van Damme J, Vandekerckhove J, Cross RA (1998)
Proteolytic mapping of kinesin/ncd-microtubule interface: nucleotide-dependent conformational changes in the loops L8 and L12
EMBO J. 1998 Feb 16;17(4):945-51. doi: 10.1093/emboj/17.4.945. PubMed PMID: 9463373; PubMed Central PMCID: PMC1170444.

Crevel IM, Lockhart A, Cross RA (1997)
Kinetic evidence for low chemical processivity in ncd and Eg5
J Mol Biol. 1997 Oct 17;273(1):160-70. doi: 10.1006/jmbi.1997.1319. PubMed PMID: 9367754.

Cross RA (1997)
Molecular motors: the natural economy of kinesin
Curr Biol. 1997 Oct 1;7(10):R631-3. doi: 10.1016/s0960-9822(06)00320-4. Review. PubMed PMID: 9368744.

Cross RA (1997)
Reversing the kinesin ratchet--a diverting tail
Nature. 1997 Sep 4;389(6646):15-6. doi: 10.1038/37864. PubMed PMID: 9288958.

Amos LA, Cross RA (1997)
Structure and dynamics of molecular motors
Curr Opin Struct Biol. 1997 Apr;7(2):239-46. doi: 10.1016/s0959-440x(97)80032-2. Review. PubMed PMID: 9094328.

Hirose K, Amos WB, Lockhart A, Cross RA, Amos LA (1997)
Three-dimensional cryoelectron microscopy of 16-protofilament microtubules: structure, polarity, and interaction with motor proteins
J Struct Biol. 1997 Mar;118(2):140-8. doi: 10.1006/jsbi.1997.3840. PubMed PMID: 9126639.

Cross RA (1997)
A protein-making motor protein
Nature. 1997 Jan 2;385(6611):18-9. doi: 10.1038/385018a0. PubMed PMID: 8985239.

Hirose K, Lockhart A, Cross RA, Amos LA (1996)
Three-dimensional cryoelectron microscopy of dimeric kinesin and ncd motor domains on microtubules
Proc Natl Acad Sci U S A. 1996 Sep 3;93(18):9539-44. doi: 10.1073/pnas.93.18.9539. PubMed PMID: 8790366; PubMed Central PMCID: PMC38464.

Fan J, Griffiths AD, Lockhart A, Cross RA, Amos LA (1996)
Microtubule minus ends can be labelled with a phage display antibody specific to alpha-tubulin
J Mol Biol. 1996 Jun 14;259(3):325-30. doi: 10.1006/jmbi.1996.0322. PubMed PMID: 8676371.

Crevel IM, Lockhart A, Cross RA (1996)
Weak and strong states of kinesin and ncd
J Mol Biol. 1996 Mar 22;257(1):66-76. doi: 10.1006/jmbi.1996.0147. PubMed PMID: 8632460.

Lockhart A, Cross RA (1996)
Kinetics and motility of the Eg5 microtubule motor
Biochemistry. 1996 Feb 20;35(7):2365-73. doi: 10.1021/bi952318n. PubMed PMID: 8652578.

Lockhart A, Cross RA, McKillop DF (1995)
ADP release is the rate-limiting step of the MT activated ATPase of non-claret disjunctional and kinesin
FEBS Lett. 1995 Jul 24;368(3):531-5. doi: 10.1016/0014-5793(95)00723-m. PubMed PMID: 7635215.

Hirose K, Lockhart A, Cross RA, Amos LA (1995)
Nucleotide-dependent angular change in kinesin motor domain bound to tubulin
Nature. 1995 Jul 20;376(6537):277-9. doi: 10.1038/376277a0. PubMed PMID: 7617042.

Lockhart A, Crevel IM, Cross RA (1995)
Kinesin and ncd bind through a single head to microtubules and compete for a shared MT binding site
J Mol Biol. 1995 Jun 16;249(4):763-71. doi: 10.1006/jmbi.1995.0335. PubMed PMID: 7602588.

Cross RA (1995)
On the hand-over-hand footsteps of kinesin heads
J Muscle Res Cell Motil. 1995 Apr;16(2):91-4. doi: 10.1007/BF00122526. Review. PubMed PMID: 7622629.

North AJ, Gimona M, Cross RA, Small JV (1994)
Calponin is localised in both the contractile apparatus and the cytoskeleton of smooth muscle cells
J Cell Sci. 1994 Mar;107 (Pt 3):437-44. doi: 10.1242/jcs.107.3.437. PubMed PMID: 8006064.

Lockhart A, Cross RA (1994)
Origins of reversed directionality in the ncd molecular motor
EMBO J. 1994 Feb 15;13(4):751-7. doi: 10.1002/j.1460-2075.1994.tb06317.x. PubMed PMID: 8112290; PubMed Central PMCID: PMC394871.

Faruqi AR, Cross RA, Kendrick-Jones J (1993)
Structural studies on the conformations of myosin
Adv Exp Med Biol. 1993;332:81-9; discussion 89-91. doi: 10.1007/978-1-4615-2872-2_8. Review. PubMed PMID: 8109388.

Cross RA, Jones JK (1992)
MgATP binding changes neither the shape nor the flexibility of the heads of single myosin molecules
J Struct Biol. 1992 Nov-Dec;109(3):208-13. doi: 10.1016/1047-8477(92)90033-7. PubMed PMID: 1296755.

Way M, Pope B, Cross RA, Kendrick-Jones J, Weeds AG (1992)
Expression of the N-terminal domain of dystrophin in E. coli and demonstration of binding to F-actin
FEBS Lett. 1992 Apr 27;301(3):243-5. doi: 10.1016/0014-5793(92)80249-g. PubMed PMID: 1577159.

Cross RA, Engel A (1991)
Scanning transmission electron microscopic mass determination of in vitro self-assembled smooth muscle myosin filaments
J Mol Biol. 1991 Dec 5;222(3):455-8. doi: 10.1016/0022-2836(91)90487-q. PubMed PMID: 1748989.

Cross RA, Geeves MA, Kendrick-Jones J (1991)
A nucleation--elongation mechanism for the self-assembly of side polar sheets of smooth muscle myosin
EMBO J. 1991 Apr;10(4):747-56. doi: 10.1002/j.1460-2075.1991.tb08006.x. PubMed PMID: 2009856; PubMed Central PMCID: PMC452712.

Ankrett RJ, Rowe AJ, Cross RA, Kendrick-Jones J, Bagshaw CR (1991)
A folded (10 S) conformer of myosin from a striated muscle and its implications for regulation of ATPase activity
J Mol Biol. 1991 Jan 20;217(2):323-35. doi: 10.1016/0022-2836(91)90546-i. PubMed PMID: 1825121.

Cross RA, Hodge TP, Kendrick-Jones J (1991)
Self-assembly pathway of nonsarcomeric myosin II
J Cell Sci Suppl. 1991;14:17-21. doi: 10.1242/jcs.1991.supplement_14.4. Review. PubMed PMID: 1885654.

Faruqi AR, Cross RA, Kendrick-Jones J (1991)
Small angle X-ray scattering studies on myosin
J Cell Sci Suppl. 1991;14:23-6. doi: 10.1242/jcs.1991.supplement_14.5. Review. PubMed PMID: 1885655.

Redwood CS, Marston SB, Bryan J, Cross RA, Kendrick-Jones J (1990)
The functional properties of full length and mutant chicken gizzard smooth muscle caldesmon expressed in Escherichia coli
FEBS Lett. 1990 Sep 17;270(1-2):53-6. doi: 10.1016/0014-5793(90)81233-e. PubMed PMID: 2226789.

Cross RA, Stewart M, Kendrick-Jones J (1990)
Structural predictions for the central domain of dystrophin
FEBS Lett. 1990 Mar 12;262(1):87-92. doi: 10.1016/0014-5793(90)80160-k. PubMed PMID: 2180744.

Citi S, Cross RA, Bagshaw CR, Kendrick-Jones J (1989)
Parallel modulation of brush border myosin conformation and enzyme activity induced by monoclonal antibodies
J Cell Biol. 1989 Aug;109(2):549-56. doi: 10.1083/jcb.109.2.549. PubMed PMID: 2474552; PubMed Central PMCID: PMC2115736.

Cross RA (1989)
Smooth operators. The molecular mechanics of smooth muscle contraction
Bioessays. 1989 Jul;11(1):18-21. doi: 10.1002/bies.950110106. Review. PubMed PMID: 2673228.

Bennett JP, Cross RA, Kendrick-Jones J, Weeds AG (1988)
Spatial pattern of myosin phosphorylation in contracting smooth muscle cells: evidence for contractile zones
J Cell Biol. 1988 Dec;107(6 Pt 2):2623-9. doi: 10.1083/jcb.107.6.2623. PubMed PMID: 3060469; PubMed Central PMCID: PMC2115625.

Cross RA, Jackson AP, Citi S, Kendrick-Jones J, Bagshaw CR (1988)
Active site trapping of nucleotide by smooth and non-muscle myosins
J Mol Biol. 1988 Sep 5;203(1):173-81. doi: 10.1016/0022-2836(88)90100-3. PubMed PMID: 3054120.

Cross RA, Citi S, Kendrick-Jones J (1988)

How phosphorylation controls the self-assembly of vertebrate smooth and non-muscle myosins
Biochem Soc Trans. 1988 Aug;16(4):501-3. doi: 10.1042/bst0160501. PubMed PMID: 3208978.

Cross RA (1988)
What is 10S myosin for?
J Muscle Res Cell Motil. 1988 Feb;9(1):108-10. doi: 10.1007/BF01682153. PubMed PMID: 3392184.

Cross RA, Cross KE, Small JV (1987)
Salt dependent dimerisation of caldesmon
FEBS Lett. 1987 Jul 27;219(2):306-10. doi: 10.1016/0014-5793(87)80241-7. PubMed PMID: 3609295.

Cross RA, Cross KE, Sobieszek A (1986)
ATP-linked monomer-polymer equilibrium of smooth muscle myosin: the free folded monomer traps ADP.Pi
EMBO J. 1986 Oct;5(10):2637-41. doi: 10.1002/j.1460-2075.1986.tb04545.x. PubMed PMID: 3780673; PubMed Central PMCID: PMC1167163.

Cross RA, Vandekerckhove J (1986)
Solubility-determining domain of smooth muscle myosin rod
FEBS Lett. 1986 May 12;200(2):355-60. doi: 10.1016/0014-5793(86)81168-1. PubMed PMID: 3709799.

Fürst DO, Cross RA, De Mey J, Small JV (1986)
Caldesmon is an elongated, flexible molecule localized in the actomyosin domains of smooth muscle
EMBO J. 1986 Feb;5(2):251-7. doi: 10.1002/j.1460-2075.1986.tb04206.x. PubMed PMID: 3709514; PubMed Central PMCID: PMC1166726.

Cross RA, Sobieszek A (1985)
Influence of smooth muscle myosin conformation on myosin light chain kinase binding and on phosphorylation
FEBS Lett. 1985 Sep 2;188(2):367-74. doi: 10.1016/0014-5793(85)80404-x. PubMed PMID: 3875504.

Cross RA, Bardsley RG, Ledward DA, Small JV, Sobieszek A (1984)
Conformational stability of the myosin rod
Eur J Biochem. 1984 Dec 3;145(2):305-10. doi: 10.1111/j.1432-1033.1984.tb08553.x. PubMed PMID: 6389130.

Cross RA (1984)
Bending of smooth muscle myosin rod
FEBS Lett. 1984 Oct 15;176(1):197-201. doi: 10.1016/0014-5793(84)80940-0. PubMed PMID: 6386520.