

## Total peer-reviewed Journal Publications: 31

As corresponding senior author: 7, First author: 11 and Co-author: 13

1. Vikraman D, Satheesan R, Kumar KS, **Mahendran KR\*** (2020). Nanopore Passport Control for Substrate Specific Translocation. *ACS Nano* doi: 10.1021/acsnano.9b09408. (\*Corresponding author).
2. Krishnan R S, Satheesan R, Puthumadathil N, Kumar KS, Jayasree P, **Mahendran KR\***. (2019). Autonomously Assembled Synthetic Transmembrane Peptide Pore. *Journal of the American Chemical Society*. 2019. 141(7):2949-2959. doi: 10.1021/jacs.8b09973. (\*Corresponding author).
3. Puthumadathil N, Jayasree P, Kumar KS, Nampoothiri MN, Bajaj H, **Mahendran KR\***. Detecting the structural assembly pathway of human antimicrobial peptide pores at single-channel level. *Biomaterials Science*. 2019. doi: 10.1039/C9BM00181F. (\*Corresponding author).
4. Remya S, Smrithi Krishnan R, Mahendran KR\*. Controlling Interactions of Cyclic Oligosaccharides with Hetero-oligomeric Nanopores: Kinetics of Binding and Release at the Single-Molecule Level. *Small*. 2018.14 (32), 1801192 (\*Corresponding author).
5. **Mahendran KR**, Niitsu A, Kong LB, Thomson AR, Sessions RB, Woolfson D and Bayley H. A monodisperse transmembrane  $\alpha$ -helical peptide barrel. *Nature Chemistry*. 2017. 9(5):411-419. doi: 10.1038/nchem.2647 (Selected for cover image)
6. Schild VR, Booth MJ, Box SJ, Olof SN, **Mahendran KR**, Bayley H. Light-Patterned Current Generation in a Droplet Bilayer Array. *Scientific Reports*. 2017. 7:46585.
7. Pliotas C\*, Dahl ACE\*, Rasmussen T\*, **Mahendran KR\***, Smith TK, Marius P, Gault J, Banda T, Rasmussen A, Miller S, Robinson CV, Bayley H, Sansom MS, Booth IR and Naismith JH. The role of lipids in mechanosensation. *Nature Structural Molecular Biology*. 2015. 22(12):991-8 (\*equally contributed as first authors of this work).
8. Gutschmann T, Heimburg T, Keyser UF, **Mahendran KR**, and Winterhalter M. Protein reconstitution into free standing planar lipid membranes for electrophysiological characterization. *Nature protocols* 2015. 10 (1), 188-198. (All authors contributed equally)
9. Singh P, Bajaj H, Benz R, Winterhalter M, **Mahendran KR\***. Transport across the outer membrane porin of mycolic acid containing actinomycetales: *Nocardia farcinica*. *BiochimBiophys Acta*. 2015. 1848 (2), 654-661 (\*Corresponding author).
10. van der Woude AD, **Mahendran KR**, Ummels R, Piersma SR, Pham TV, Jiménez CR, de Punder K, van der Wel NN, Winterhalter M, Luirink J, Bitter W, Houben EN. Differential detergent extraction of mycobacterium marinum cell envelope proteins identifies an

extensively modified threonine-rich outer membrane protein with channel activity. *J Bacteriol.* 2013.195(9):2050-9.

11. **Mahendran KR**, Lamichhane U, Ruiz M, Nussberger S, Winterhalter M. Polypeptide translocation through mitochondrial TOM channel: Temperature dependent rates at single molecule level. *J Phys Chem Letter* 2013. 4 (1):78–82.
12. Suginta W, Chumjan W, **Mahendran KR**, Schulte A, Winterhalter M. Chitoporin from *Vibrio harveyi*, a channel with exceptional sugar specificity. *J Biol Chem* 2013. 288(16):11038-46
13. Suginta W, Chumjan W, **Mahendran KR**, Janning P, Schulte A, Winterhalter M. Molecular uptake of chitooligosaccharides through chitoporin from the marine bacterium *Vibrio harveyi*. *PLoS One.* 2013;8(1):e55126.
14. Lamichhane U, Islam T, Prasad S, Weingart H, **Mahendran KR**, Winterhalter M. Peptide translocation through the mesoscopic channel: binding kinetics at the single molecule level. *Eur Biophys J.* 2013. 42(5):363-9.
15. Singh P, Bárcena-Uribarri I, Modi N, Kleinekathöfer U, Benz R, Winterhalter M, **Mahendran KR\***. Pulling Peptides across Nano-channels: Resolving Peptide Binding and Translocation through the Hetero-oligomeric Channel from *Nocardia farcinica* *ACS Nano* 2012. 6(12):10699-707 (\***Corresponding author**).
16. Bajaj H, Tran QT, **Mahendran KR**, Nasrallah C, Colletier JP, Davin-Regli A, Bolla JM, Pages JM, Winterhalter M. Antibiotic Uptake through Membrane Channels: Role of *Providencia stuartii* OmpPst1 Porin in Carbapenem Resistance. *Biochemistry* 2012 51(51):10244-9.
17. Singh PR, Ceccarelli M, Lovelle M, Winterhalter M, **Mahendran KR\***: Antibiotic permeation across OmpF channel: Modulation of affinity site in the presence of magnesium. *J Phys Chem B.* 2012. 116(15):4433-8 (\***Corresponding author**).
18. **Mahendran KR**, Romero-Ruiz M, Schlösinger A, Winterhalter M and Stephan Nussberger: Protein translocation through Tom40: Kinetics of peptide release. *Biophys J* 2012. 102(1):39-47.
19. Modi N, Singh PR, **Mahendran KR**, Schulz R, Winterhalter M, and Kleinekathoefer U. Probing the transport of ionic liquids in aqueous solution through nanopores. *J Phys Chem Lett* 2011. 2 (18) 2331–2336.
20. \*Gornall JL, \***Mahendran KR**, Pambos OJ, Steinbock LJ, Otto O, Chimere C, Winterhalter M, Keyser UF. Simple Reconstitution of Protein Pores in Nano Lipid Bilayers. *Nano Lett* 2011. 11(8):3334-40 (\*Equally contributed as first authors of this work).

21. Lovelle M, Mach T, **Mahendran KR**, Weingart H, Winterhalter M, Gameiro P. Interaction of cephalosporins with outer membrane channels of Escherichia coli. Revealing binding by fluorescence quenching and ion conductance fluctuations. *Phys Chem Chem Phys* 2011. 13(4):1521-30
22. Suginta W, **Mahendran KR**, Chumjam W, Hajjar E, Schulte A, Winterhalter M, Weingart H. Molecular analysis of antimicrobial agent translocation through the membrane porin BpsOmp38 from an ultraresistant Burkholderia pseudomallei strain. *Biochim Biophys Acta* 2011. 1808(6):1552-9.
23. **Mahendran KR**, Singh PR, Arning J, Stolte S, Kleinekathoefer U, Winterhalter M. Permeation through nanochannels: revealing fast kinetics. *J Phys Condens Matter* 2010. 22(45):454131.
24. Tran QT, **Mahendran KR**, Hajjar E, Ceccarelli M, Davin-Regli A, Winterhalter M, Weingart H, Pagès JM. Implication of porins in beta-lactam resistance of Providencia stuartii. *J Biol Chem* 2010. 285(42):32273-81.
25. Hajjar E, Bessonov AN, Kumar A, Molitor A, **Mahendran KR**, Winterhalter M, Pagès JM, Ruggerone P, Ceccarelli M. Toward Screening for Antibiotics with Enhanced Permeation Properties through Bacterial Porins. *Biochemistry* 2010. 49(32):6928-35.
26. Romero-Ruiz M, **Mahendran KR**, Eckert R, Winterhalter M, Nussberger S. Interactions of mitochondrial presequence peptides with the mitochondrial outer membrane preprotein translocase TOM. *Biophys J* 2010. 99(3):774-81.
27. **Mahendran KR** et al. Molecular basis of enrofloxacin translocation through an outer membrane channel of Escherichia coli – Binding does not imply translocation. *J Phys Chem. B* 2010. 114(15):5170-9.
28. **Mahendran KR**, Kreir M, Weingart H, Fertig N and Winterhalter M. Permeation of antibiotics through E.coli OmpF and OmpC porins: Screening for influx on a single molecule level. *J Biomol Screen* 2010. 15(3):302-7.
29. Hajjar E, **Mahendran KR**, Kumar A, Bessonov AN, Petrescu M, Weingart H, Ruggerone P, Winterhalter M, Ceccarelli M. Bridging time and length scales: from macroscopic flux to molecular mechanism of antibiotics diffusion through porins. *Biophys J* 2010. 98(4):569-75.
30. **Mahendran KR**, Chimere C, Mach T, Winterhalter M. Antibiotic translocation through membrane channels: Temperature dependent ion current fluctuation for catching the fast events. *Eur Biophys J* 2009. 38:1141-1145.
31. \*James CE, \***Mahendran KR**, Molitor A, Bolla JM, Bessonov AN, Winterhalter M, Pagès JM. How beta-lactam antibiotics enter bacteria: a dialogue with the porins. *PLoS ONE* 2009 4 (5): e5453 (\*Equally contributed as first authors of this work).

**Book chapter:**

1. **Mahendran KR**, Schulz R, Weingart H, Kleinekathöfer U, Winterhalter M. The permeability barrier: passive and active drug passage across membranes. In "Bacterial Membranes: Structural and Molecular Biology." Remaut H, Fronzes, R (Eds.). Horizon Scientific press, Norwich (2012).