# Richard S Lewis

## List of Publications by Citations



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|---|---|---|---|
| 55 papers | 14,366 citations | 38 h-index | 60 g-index |
| 60 ext. papers | 15,497 ext. citations | 17.1 avg, IF | 6.84 L-index |

| # | Paper | IF | Citations |
|---|---|---|---|
| 55 | A mutation in Orai1 causes immune deficiency by abrogating CRAC channel function. *Nature*, **2006**, 441, 179-85 | 50.4 | 1781 |
| 54 | Calcium oscillations increase the efficiency and specificity of gene expression. *Nature*, **1998**, 392, 933-6 | 50.4 | 1649 |
| 53 | Differential activation of transcription factors induced by Ca2+ response amplitude and duration. *Nature*, **1997**, 386, 855-8 | 50.4 | 1552 |
| 52 | STIM1 clusters and activates CRAC channels via direct binding of a cytosolic domain to Orai1. *Cell*, **2009**, 136, 876-90 | 56.2 | 737 |
| 51 | Calcium signaling mechanisms in T lymphocytes. *Annual Review of Immunology*, **2001**, 19, 497-521 | 34.7 | 697 |
| 50 | Store-Operated Calcium Channels. *Physiological Reviews*, **2015**, 95, 1383-436 | 47.9 | 684 |
| 49 | Ca2+ store depletion causes STIM1 to accumulate in ER regions closely associated with the plasma membrane. *Journal of Cell Biology*, **2006**, 174, 803-13 | 7.3 | 644 |
| 48 | Molecular basis of calcium signaling in lymphocytes: STIM and ORAI. *Annual Review of Immunology*, **2010**, 28, 491-533 | 34.7 | 600 |
| 47 | The elementary unit of store-operated Ca2+ entry: local activation of CRAC channels by STIM1 at ER-plasma membrane junctions. *Journal of Cell Biology*, **2006**, 174, 815-25 | 7.3 | 530 |
| 46 | Mitochondrial regulation of store-operated calcium signaling in T lymphocytes. *Journal of Cell Biology*, **1997**, 137, 633-48 | 7.3 | 450 |
| 45 | Oligomerization of STIM1 couples ER calcium depletion to CRAC channel activation. *Nature*, **2008**, 454, 538-42 | 50.4 | 434 |
| 44 | Potentiation and inhibition of Ca(2+) release-activated Ca(2+) channels by 2-aminoethyldiphenyl borate (2-APB) occurs independently of IP(3) receptors. *Journal of Physiology*, **2001**, 536, 3-19 | 3.9 | 418 |
| 43 | The molecular choreography of a store-operated calcium channel. *Nature*, **2007**, 446, 284-7 | 50.4 | 417 |
| 42 | Potassium and calcium channels in lymphocytes. *Annual Review of Immunology*, **1995**, 13, 623-53 | 34.7 | 413 |
| 41 | Different nuclear signals are activated by the B cell receptor during positive versus negative signaling. *Immunity*, **1997**, 6, 419-28 | 32.3 | 334 |
| 40 | Separation and characterization of currents through store-operated CRAC channels and Mg2+-inhibited cation (MIC) channels. *Journal of General Physiology*, **2002**, 119, 487-507 | 3.4 | 249 |
| 39 | Dynamics of thymocyte-stromal cell interactions visualized by two-photon microscopy. *Science*, **2002**, 296, 1876-80 | 33.3 | 244 |

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|---|---|---|---|
| 38 | Slow calcium-dependent inactivation of depletion-activated calcium current. Store-dependent and -independent mechanisms. *Journal of Biological Chemistry*, **1995**, 270, 14445-51 | 5.4 | 198 |
| 37 | Calcium oscillations regulate thymocyte motility during positive selection in the three-dimensional thymic environment. *Nature Immunology*, **2005**, 6, 143-51 | 19.1 | 197 |
| 36 | A severe defect in CRAC Ca2+ channel activation and altered K+ channel gating in T cells from immunodeficient patients. *Journal of Experimental Medicine*, **2005**, 202, 651-62 | 16.6 | 195 |
| 35 | STIM1 and calmodulin interact with Orai1 to induce Ca2+-dependent inactivation of CRAC channels. *Proceedings of the National Academy of Sciences of the United States of America*, **2009**, 106, 15495-500 | 11.5 | 193 |
| 34 | Essential role for the CRAC activation domain in store-dependent oligomerization of STIM1. *Molecular Biology of the Cell*, **2010**, 21, 1897-907 | 3.5 | 151 |
| 33 | Store-operated calcium channels: new perspectives on mechanism and function. *Cold Spring Harbor Perspectives in Biology*, **2011**, 3, | 10.2 | 150 |
| 32 | CRAC channels: activation, permeation, and the search for a molecular identity. *Cell Calcium*, **2003**, 33, 311-21 | 4 | 142 |
| 31 | Stoichiometric requirements for trapping and gating of Ca2+ release-activated Ca2+ (CRAC) channels by stromal interaction molecule 1 (STIM1). *Proceedings of the National Academy of Sciences of the United States of America*, **2011**, 108, 13299-304 | 11.5 | 133 |
| 30 | Regulation of CRAC channel activity by recruitment of silent channels to a high open-probability gating mode. *Journal of General Physiology*, **2006**, 128, 373-86 | 3.4 | 119 |
| 29 | Enhancement of calcium signalling dynamics and stability by delayed modulation of the plasma-membrane calcium-ATPase in human T cells. *Journal of Physiology*, **2002**, 541, 877-94 | 3.9 | 103 |
| 28 | Differential contribution of chemotaxis and substrate restriction to segregation of immature and mature thymocytes. *Immunity*, **2009**, 31, 986-98 | 32.3 | 84 |
| 27 | Modulation of plasma membrane calcium-ATPase activity by local calcium microdomains near CRAC channels in human T cells. *Journal of Physiology*, **2004**, 556, 805-17 | 3.9 | 77 |
| 26 | Single-molecule analysis of diffusion and trapping of STIM1 and Orai1 at endoplasmic reticulum-plasma membrane junctions. *Molecular Biology of the Cell*, **2014**, 25, 3672-85 | 3.5 | 75 |
| 25 | Store-operated calcium channels. *Advances in Second Messenger and Phosphoprotein Research*, **1999** , 33, 279-307 | | 75 |
| 24 | Alternative splicing converts STIM2 from an activator to an inhibitor of store-operated calcium channels. *Journal of Cell Biology*, **2015**, 209, 653-69 | 7.3 | 73 |
| 23 | Some assembly required: constructing the elementary units of store-operated Ca2+ entry. *Cell Calcium*, **2007**, 42, 163-72 | 4 | 70 |
| 22 | Isolation of mutant T lymphocytes with defects in capacitative calcium entry. *Immunity*, **1995**, 3, 239-50 | 32.3 | 62 |
| 21 | Functional Analysis of Orai1 Concatemers Supports a Hexameric Stoichiometry for the CRAC Channel. *Biophysical Journal*, **2016**, 111, 1897-1907 | 2.9 | 60 |

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|---|---|---|---|
| 20 | New insights into the molecular mechanisms of store-operated Ca2+ signaling in T cells. *Trends in Molecular Medicine*, **2007**, 13, 103-7 | 11.5 | 53 |
| 19 | Calcium influx through CRAC channels controls actin organization and dynamics at the immune synapse. *ELife*, **2016**, 5, | 8.9 | 46 |
| 18 | Store-Operated Calcium Channels: From Function to Structure and Back Again. *Cold Spring Harbor Perspectives in Biology*, **2020**, 12, | 10.2 | 43 |
| 17 | The inactivation domain of STIM1 is functionally coupled with the Orai1 pore to enable Ca2+-dependent inactivation. *Journal of General Physiology*, **2016**, 147, 153-64 | 3.4 | 37 |
| 16 | Orai1 pore residues control CRAC channel inactivation independently of calmodulin. *Journal of General Physiology*, **2016**, 147, 137-52 | 3.4 | 36 |
| 15 | Numbers count: How STIM and Orai stoichiometry affect store-operated calcium entry. *Cell Calcium* , **2019**, 79, 35-43 | 4 | 29 |
| 14 | Structural features of STIM and Orai underlying store-operated calcium entry. *Current Opinion in Cell Biology*, **2019**, 57, 90-98 | 9 | 25 |
| 13 | Physiological CRAC channel activation and pore properties require STIM1 binding to all six Orai1 subunits. *Journal of General Physiology*, **2018**, 150, 1373-1385 | 3.4 | 25 |
| 12 | A fluorometric method for estimating the calcium content of internal stores. *Cell Calcium*, **1998**, 23, 251-9 | 4 | 23 |
| 11 | Real-time measurement of signaling and motility during T cell development in the thymus. *Seminars in Immunology*, **2005**, 17, 411-20 | 10.7 | 23 |
| 10 | Quantitative and qualitative control of antigen receptor signalling in tolerant B lymphocytes. *Novartis Foundation Symposium*, **1998**, 215, 137-44; discussion 144-5, 186-90 | | 17 |
| 9 | Differential activation of transcription factors induced by Ca2+ response amplitude and duration. *Nature*, **1997**, 388, 308-308 | 50.4 | 6 |
| 8 | Store-operated calcium channels: properties, functions and the search for a molecular mechanism. *Advances in Molecular and Cell Biology*, **2004**, 32, 121-140 | | 6 |
| 7 | Conformational dynamics of auto-inhibition in the ER calcium sensor STIM1. *ELife*, **2021**, 10, | 8.9 | 4 |
| 6 | Cav1 regulates T cell expansion and apoptosis independently of voltage-gated Ca channel function.. *Nature Communications*, **2022**, 13, 2033 | 17.4 | 2 |
| 5 | Conformational dynamics of auto-inhibition in the ER calcium sensor STIM1 | | 1 |
| 4 | Simultaneous Measurement of Membrane Current and Intracellular Calcium **1999**, 140-163 | | |
| 3 | Alternative splicing converts STIM2 from an activator to an inhibitor of store-operated calcium channels. *Journal of General Physiology*, **2015**, 146, 1461OIA35 | 3.4 | |

# List of Publications

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| 2 | Orai1 pore residues control CRAC channel inactivation independently of calmodulin. *Journal of Cell Biology*, **2016**, 212, 2124OIA24 | 7.3 |
| 1 | The inactivation domain of STIM1 is functionally coupled with the Orai1 pore to enable Ca2+-dependent inactivation. *Journal of Cell Biology*, **2016**, 212, 2124OIA25 | 7.3 |