# Derek Bowie

List of Publications by Year
in descending order



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|---|---|---|---|
| 67 papers | 2,834 citations | 236833 25 h-index | 182361 51 g-index |
| 70 all docs | 70 docs citations | 70 times ranked | 2744 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Inward rectification of both AMPA and kainate subtype glutamate receptors generated by polyamine-mediated ion channel block. Neuron, 1995, 15, 453-462. | 3.8 | 526 |
| 2 | Structure, Function, and Pharmacology of Glutamate Receptor Ion Channels. Pharmacological Reviews, 2021, 73, 1469-1658. | 7.1 | 237 |
| 3 | Ionotropic Glutamate Receptors & CNS Disorders. CNS and Neurological Disorders - Drug Targets, 2008, 7, 129-143. | 0.8 | 177 |
| 4 | Excitotoxic Death of Retinal Neurons<i>In Vivo</i>Occurs via a Non-Cell-Autonomous Mechanism. Journal of Neuroscience, 2009, 29, 5536-5545. | 1.7 | 167 |
| 5 | Structural determinants of allosteric regulation in alternatively spliced AMPA receptors. Neuron, 1995, 14, 833-843. | 3.8 | 154 |
| 6 | Soluble Tumor Necrosis Factor Alpha Promotes Retinal Ganglion Cell Death in Glaucoma via Calcium-Permeable AMPA Receptor Activation. Journal of Neuroscience, 2015, 35, 12088-12102. | 1.7 | 111 |
| 7 | Activity-Dependent Modulation of Glutamate Receptors by Polyamines. Journal of Neuroscience, 1998, 18, 8175-8185. | 1.7 | 105 |
| 8 | Novel Î±1 and Î³2 GABA<sub>A</sub> receptor subunit mutations in families with idiopathic generalized epilepsy. European Journal of Neuroscience, 2011, 34, 237-249. | 1.2 | 98 |
| 9 | Permeation and block of rat glur6 glutamate receptor channels by internal and external polyamines. Journal of Physiology, 1997, 502, 575-589. | 1.3 | 94 |
| 10 | Automating Single Subunit Counting of Membrane Proteins in Mammalian Cells. Journal of Biological Chemistry, 2012, 287, 35912-35921. | 1.6 | 85 |
| 11 | Functional Stoichiometry of Glutamate Receptor Desensitization. Journal of Neuroscience, 2002, 22, 3392-3403. | 1.7 | 76 |
| 12 | External anions and cations distinguish between AMPA and kainate receptor gating mechanisms. Journal of Physiology, 2002, 539, 725-733. | 1.3 | 67 |
| 13 | Mitochondrial reactive oxygen species regulate the strength of inhibitory GABA-mediated synaptic transmission. Nature Communications, 2014, 5, 3168. | 5.8 | 62 |
| 14 | Distinct Structural Pathways Coordinate the Activation of AMPA Receptor-Auxiliary Subunit Complexes. Neuron, 2016, 89, 1264-1276. | 3.8 | 61 |
| 15 | Allosteric Regulation and Spatial Distribution of Kainate Receptors Bound to Ancillary Proteins. Journal of Physiology, 2003, 547, 373-385. | 1.3 | 56 |
| 16 | Redefining the classification of AMPAâ€selective ionotropic glutamate receptors. Journal of Physiology, 2012, 590, 49-61. | 1.3 | 55 |
| 17 | Polyamine-mediated channel block of ionotropic glutamate receptors and its regulation by auxiliary proteins. Journal of Biological Chemistry, 2018, 293, 18789-18802. | 1.6 | 50 |
| 18 | External Ions Are Coactivators of Kainate Receptors. Journal of Neuroscience, 2006, 26, 5750-5755. | 1.7 | 43 |

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|---|---|---|---|
| 19 | Identification of a novel di-leucine motif mediating K+/Clâ<sup>^</sup> cotransporter KCC2 constitutive endocytosis. Cellular Signalling, 2008, 20, 1769-1779. | 1.7 | 38 |
| 20 | Light triggers expression of philanthotoxin-insensitive Ca2+-permeable AMPA receptors in the developing rat retina. Journal of Physiology, 2007, 582, 95-111. | 1.3 | 37 |
| 21 | Defining the structural relationship between kainate-receptor deactivation and desensitization. Nature Structural and Molecular Biology, 2013, 20, 1054-1061. | 3.6 | 34 |
| 22 | Na+/Cl- Dipole Couples Agonist Binding to Kainate Receptor Activation. Journal of Neuroscience, 2007, 27, 6800-6809. | 1.7 | 31 |
| 23 | Ionâ€dependent gating of kainate receptors. Journal of Physiology, 2010, 588, 67-81. | 1.3 | 30 |
| 24 | Concanavalin-A reports agonist-induced conformational changes in the intact GluR6 kainate receptor. Journal of Physiology, 2006, 572, 201-213. | 1.3 | 25 |
| 25 | Hydrogen Peroxide Increases GABAA Receptor-Mediated Tonic Current in Hippocampal Neurons. Journal of Neuroscience, 2014, 34, 10624-10634. | 1.7 | 25 |
| 26 | Â6-Containing GABAA Receptors Are the Principal Mediators of Inhibitory Synapse Strengthening by Insulin in Cerebellar Granule Cells. Journal of Neuroscience, 2015, 35, 9676-9688. | 1.7 | 25 |
| 27 | Stargazin and cornichon-3 relieve polyamine block of AMPA receptors by enhancing blocker permeation. Journal of General Physiology, 2018, 150, 67-82. | 0.9 | 25 |
| 28 | Nanoscale Mobility of the Apo State and TARP Stoichiometry Dictate the Gating Behavior of Alternatively Spliced AMPA Receptors. Neuron, 2019, 102, 976-992.e5. | 3.8 | 25 |
| 29 | Thiocyanate ions selectively antagonize AMPAâ€evoked responses in <i>Xenopus laevis</i> oocytes microinjected with rat brain mRNA. British Journal of Pharmacology, 1993, 109, 779-787. | 2.7 | 24 |
| 30 | Kainate receptor poreâ€forming and auxiliary subunits regulate channel block by a novel mechanism. Journal of Physiology, 2016, 594, 1821-1840. | 1.3 | 24 |
| 31 | Cerebellar Stellate Cell Excitability Is Coordinated by Shifts in the Gating Behavior of Voltage-Gated Na<sup>+</sup>and A-Type K<sup>+</sup>Channels. ENeuro, 2019, 6, ENEURO.0126-19.2019. | 0.9 | 24 |
| 32 | Transmembrane AMPA receptor regulatory protein regulation of competitive antagonism: a problem of interpretation. Journal of Physiology, 2011, 589, 5383-5390. | 1.3 | 23 |
| 33 | Binding Mode of an Î±-Amino Acid-Linked Quinoxaline-2,3-dione Analogue at Glutamate Receptor Subtype GluK1. ACS Chemical Neuroscience, 2015, 6, 845-854. | 1.7 | 21 |
| 34 | Full-length cellular Î²-secretase has a trimeric subunit stoichiometry, and its sulfur-rich transmembrane interaction site modulates cytosolic copper compartmentalization. Journal of Biological Chemistry, 2017, 292, 13258-13270. | 1.6 | 21 |
| 35 | Crosslinking the ligandâ€binding domain dimer interface locks kainate receptors out of the main open state. Journal of Physiology, 2013, 591, 3873-3885. | 1.3 | 20 |
| 36 | Architecture and structural dynamics of the heteromeric GluK2/K5 kainate receptor. ELife, 2021, 10, . | 2.8 | 20 |

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|---|---|---|---|
| 37 | Functional Characterization and In Silico Docking of Full and Partial GluK2 Kainate Receptor Agonists. Molecular Pharmacology, 2009, 75, 1096-1107. | 1.0 | 19 |
| 38 | Functional Validation of Heteromeric Kainate Receptor Models. Biophysical Journal, 2017, 113, 2173-2177. | 0.2 | 16 |
| 39 | Cations But Not Anions Regulate the Responsiveness of Kainate Receptors. Journal of Neuroscience, 2011, 31, 2136-2144. | 1.7 | 13 |
| 40 | Retour aux sources: defining the structural basis of glutamate receptor activation. Journal of Physiology, 2015, 593, 97-110. | 1.3 | 13 |
| 41 | Bursting in cerebellar stellate cells induced by pharmacological agents: Non-sequential spike adding. PLoS Computational Biology, 2020, 16, e1008463. | 1.5 | 9 |
| 42 | Design and Synthesis of a Series of <scp>l</scp>-<i>trans</i>-4-Substituted Prolines as Selective Antagonists for the Ionotropic Glutamate Receptors Including Functional and X-ray Crystallographic Studies of New Subtype Selective Kainic Acid Receptor Subtype 1 (GluK1) Antagonist (2<i>S</i>,4<i>R</i>)-4-(2-Carboxyphenoxy)pyrrolidine-2-carboxylic Acid. Journal of Medicinal Chemistry, 2017, 60, 441-457. | 2.9 | 6 |
| 43 | Modeling excitability in cerebellar stellate cells: Temporal changes in threshold, latency and frequency of firing. Communications in Nonlinear Science and Numerical Simulation, 2020, 82, 105014. | 1.7 | 6 |
| 44 | Ionotropic glutamate receptors: structure, function and dysfunction. Journal of Physiology, 2022, 600, 175-179. | 1.3 | 6 |
| 45 | Nitric Oxide Signaling Strengthens Inhibitory Synapses of Cerebellar Molecular Layer Interneurons through a GABARAP-Dependent Mechanism. Journal of Neuroscience, 2020, 40, 3348-3359. | 1.7 | 5 |
| 46 | Intrinsic plasticity of cerebellar stellate cells is mediated by NMDA receptor regulation of voltageâ€gated Na + channels. Journal of Physiology, 2021, 599, 647-665. | 1.3 | 5 |
| 47 | Interplay between expressed non-NMDA receptors and endogenous calcium-activated chloride currents in Xenopus laevis oocytes. Neuroscience Letters, 1993, 151, 4-8. | 1.0 | 4 |
| 48 | Speciesâ€dependent functional properties of nonâ€NMDA receptors expressed in <i>Xenopus laevis</i> oocytes injected with mammalian and avian brain mRNA. British Journal of Pharmacology, 1994, 111, 803-810. | 2.7 | 4 |
| 49 | Thinking of Co<sup>2+</sup>â€staining explant tissue or cultured cells? How to make it reliable and specific. European Journal of Neuroscience, 2012, 35, 1201-1207. | 1.2 | 4 |
| 50 | Switching in Cerebellar Stellate Cell Excitability in Response to a Pair of Inhibitory/Excitatory Presynaptic Inputs: A Dynamical System Perspective. Neural Computation, 2020, 32, 626-658. | 1.3 | 4 |
| 51 | The many faces of the AMPA-type ionotropic glutamate receptor. Neuropharmacology, 2022, 208, 108975. | 2.0 | 4 |
| 52 | A Step-by-Step Guide to Single-Subunit Counting of Membrane-Bound Proteins in Mammalian Cells. Neuromethods, 2016, , 15-30. | 0.2 | 3 |
| 53 | Ligandâ€gated ion channels: from genes to behaviour. Journal of Physiology, 2012, 590, 9-11. | 1.3 | 2 |
| 54 | Coupling cellular metabolism to neuronal signalling. Journal of Physiology, 2015, 593, 3413-3415. | 1.3 | 2 |

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|---|---|---|---|
| 55 | Neurotransmitterâ€gated ion channels, still front and centre stage. Journal of Physiology, 2021, 599, 389-395. | 1.3 | 2 |
| 56 | External anions and cations distinguish between AMPA and kainate receptor gating mechanisms. , 2002, 539, 725. | | 2 |
| 57 | Ionotropic glutamate receptors made crystal clear. Trends in Neurosciences, 2014, 37, 687-688. | 4.2 | 1 |
| 58 | Discovery of novel small-molecule antagonists for GluK2. Bioorganic and Medicinal Chemistry Letters, 2015, 25, 2416-2420. | 1.0 | 1 |
| 59 | Mechanism of AMPA Receptor Gating Re-Shaped by Auxiliary Proteins. Biophysical Journal, 2016, 110, 201a. | 0.2 | 1 |
| 60 | Shared and unique aspects of ligandâ€•and voltageâ€gated ionâ€channel gating. Journal of Physiology, 2018, 596, 1829-1832. | 1.3 | 1 |
| 61 | Spliced isoforms of the cardiac Nav1.5 channel modify channel activation by distinct structural mechanisms. Journal of General Physiology, 2022, 154, . | 0.9 | 1 |
| 62 | TARP Modulation of AMPA Receptor Pharmacology: Polyamine Block and Competitive Antagonism. Biophysical Journal, 2010, 98, 523a-524a. | 0.2 | 0 |
| 63 | An Automated Method to Study Oligomerization of Single Membrane-Bound Proteins using Fluorescence Imaging. Biophysical Journal, 2012, 102, 114a-115a. | 0.2 | 0 |
| 64 | Functional Consequences of Cysteine Mutations at the Kainate Receptor Dimer Interface. Biophysical Journal, 2014, 106, 150a. | 0.2 | 0 |
| 65 | Ionotropic glutamate receptors: alive and kicking. Journal of Physiology, 2015, 593, 25-27. | 1.3 | 0 |
| 66 | Can Activation and Desensitization Properties of iGluRs Be Predicted and Understood by Studying the LBD Dimer Dynamics?. Biophysical Journal, 2015, 108, 287a-288a. | 0.2 | 0 |
| 67 | Closed-state inactivation of cardiac, skeletal, and neuronal sodium channels is isoform specific. Journal of General Physiology, 2022, 154, . | 0.9 | 0 |