Stanford

Rajat Rohatgi

Professor of Biochemistry and of Medicine (Oncology)

Curriculum Vitae available Online

Bio

ACADEMIC APPOINTMENTS

- Professor, Biochemistry
- Professor, Medicine - Oncology
- Member, Bio-X
- Member, Cardiovascular Institute
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Stanford Cancer Institute
- Member, Wu Tsai Neurosciences Institute

HONORS AND AWARDS

- Fellowship Award, Damon Runyon Cancer Research Fund (2006)
- Howard Temin Pathway to Independance Award (K99/R00), NCI/NIH (2007)
- Young Investigator Award, American Society for Clinical Oncology (2007)
- Josephine Q. Berry Faculty Scholar in Cancer Research, Stanford University (2009)
- Martin D. Abeloff Scholar, V Foundation for Cancer Research (2009-2011)
- Distinguished Scientist Award, Sontag Foundation (2010)
- Basil O' Connor Starter Scholar Award, March of Dimes Foundation (2010-2012)
- Stand Up To Cancer Innovation Research Grant, American Association for Cancer Research (2010-2013)
- NIH Director's New Innovator Award, NIH (2012)
- Maximizing Investigators' Research Award (MIRA), NIGMS/NIH (2016)
- Member, American Society for Clinical Investigation (2018)

PROFESSIONAL EDUCATION

- Fellowship, Stanford Hospital , Medical Oncology (2008)
- Residency, Stanford Hospital , Internal Medicine (2004)
- Ph.D., Harvard Medical School , Cell Biology (2002)
- M.D., Harvard Medical School (2002)
- A.B., Harvard University , Biochemical Sciences (1994)

LINKS

- My Lab Website: http://rohatgilab.stanford.edu/

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Areas of research in the Rohatgi Lab:

1. The Hedgehog and WNT pathways, two cell-cell communication systems that regulate the formation of most tissues during development. These same pathways play central roles in tissue stem-cell function and organ regeneration in adults. Defects in these systems are associated with degenerative conditions and cancer.

2. Signal transduction at the primary cilium and the mechanism of cilia-associated human diseases. Primary cilia are solitary hair-like projections found on most cells in our bodies that function as critical hubs for signal transduction pathways (such as Hedgehog). Over fifty human genetic diseases, called “ciliopathies,” are caused by defects in cilia. Patients with ciliopathies can show phenotypes in nearly all organ systems, suffering from abnormalities ranging from birth defects to obesity.

3. Regulation of signaling pathways by endogenous lipids. The landscape of endogenous small-molecules and their biological functions remains a terra incognita, one that provides many opportunities to discover new regulatory layers in signaling pathways.

4. Phase separation in signal transduction. The formation of reversible, membrane-less compartments in cells by the segregation of proteins into liquid phases, hydrogels or amyloid-like assemblies is an emerging principle of cellular organization, with broad implications for areas that include signaling at the cell surface, stress response pathways, and neuro-degeneration.

5. Cellular responses to osmolar stresses. Maintaining a stable concentration of intracellular macromolecules and ions in a fluctuating environment is a universal challenge to homeostasis faced by all cells. In our own bodies, cells of the kidney and cells in inflammatory environments face tissue osmolality levels that are 3-fold higher than blood!

Strategies:

1. CRISPR/Cas9-based genome-wide, loss-of-function screens targeting signaling pathways.
• Enhancer and suppressor screens to comprehensively identify pathway components.
• Synthetic screens to identify the genetic vulnerabilities of cells carrying mutations in human oncogenes and tumor suppressor genes.
• Screens based on complex, physiological read-outs of signaling, such as differentiation.

2. Protein biochemistry: proteomics, structure-guided analysis, activity-based purification and cell-free reconstitution of signaling reactions in extracts and using purified components.

3. Chemical Biology: new probes to assay the interactions between proteins and small molecules.

4. Imaging: Live-cell imaging with innovative optical probes and genetically-encoded reporters to monitor the temporal and spatial progression of signaling, the quantitative phase separation behavior of proteins, and the dynamic, signal-regulated trafficking of proteins.

5. Collaborations: With experts in structural biology (Christian Siebold, Oxford, Elife 2013, 2016 and Nature 2016), genome-wide screening (Jan Carette, Stanford, Elife and Cancer Research 2016), protein and genome evolution (L. Aravind, NIH, Dev Cell 2014 and 2018), and developmental biology (James Briscoe, Francis Crick Institute, Dev Cell 2018).

CLINICAL TRIALS

- Identification of Circulating Tumor Cells in the Peripheral Blood of Lung Cancer Patients, Not Recruiting

Teaching

COURSES

2025-26

- Development of Thesis Research: BIOC 350 (Aut)

2024-25

- Development of Thesis Research: BIOC 350 (Aut)

2023-24

- Development of Thesis Research: BIOC 350 (Aut)

2022-23

- Development of Thesis Research: BIOC 350 (Aut)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Rae Brown, Claire Chiang, Jack Marciano

Postdoctoral Faculty Sponsor

Israel Juarez Contreras, Maia Kinnebrew, Parijat Sarkar

Doctoral Dissertation Advisor (AC)

Katie DeLong

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Biochemistry (Phd Program)
- Cancer Biology (Phd Program)

Publications

PUBLICATIONS

- **Expanding roles of N-glycosylation in the endoplasmic reticulum.** *Trends in cell biology*
  Ma, M., Rohatgi, R.
  2026
- **Structural basis of regulated N-glycosylation at the secretory translocon.** *Nature*
  Yamsek, M., Ma, M., Jha, R., Wan, Y., Li, Q., Zhong, F., DeLong, K., Ji, Z., Rohatgi, R., Keenan, R. J.
  2025

- **Mutational scanning reveals substrate-assisted autoregulation of the WNT destruction complex.** *bioRxiv : the preprint server for biology*
  Padmanarayana, M., Sakalas, S., Sarkar, P., Ma, M., Garvin, E. R., Lee, E., Corsello, S. M., Guettler, S., Pusapati, G. V., Rohatgi, R.
  2025

- **"Design principles of a membrane-spanning ubiquitin ligase".** *bioRxiv : the preprint server for biology*
  Williams, C., Nocka, L. M., Hedger, G., Parashara, P., Pardon, E., Latorraca, N. R., Pusapati, G. V., Lartey, D., Gao, L., Milenkovic, L., Chalk, R., Steyaert, J., Marqusee, et al
  2025

- **Plasma membrane accessible cholesterol is regulated by ACC1 and lipid droplets.** *bioRxiv : the preprint server for biology*
  Wijesinghe, K. M., Kim, C. W., Schad, E. O., Li, S., Chen, S., Takeshima, E., Khandwala, C. B., Tillo, D., Lebensohn, A. M., Olzmann, J. A., Rohatgi, R., Kinnebrew, M.
  2025

- **Direct ionic stress sensing and mitigation by the transcription factor NFAT5.** *Science advances*
  Khandwala, C. B., Sarkar, P., Schmidt, H. B., Ma, M., Pusapati, G. V., Lamoliatte, F., Kinnebrew, M., Patel, B. B., Tillo, D., Lebensohn, A. M., Rohatgi, R.
  2025; 11 (8): eadu3194

- **Regulated N-glycosylation controls chaperone function and receptor trafficking.** *Science (New York, N.Y.)*
  Ma, M., Dubey, R., Jen, A., Pusapati, G. V., Singal, B., Shishkova, E., Overmyer, K. A., Cormier-Daire, V., Fedry, J., Aravind, L., Coon, J. J., Rohatgi, R.
  2024; 386 (6722): 667-672

- **The Inseparable Relationship Between Cholesterol and Hedgehog Signaling.** *Annual review of biochemistry*
  Siebold, C., Rohatgi, R.
  2023

- **Patched 1 regulates Smoothened by controlling sterol binding to its extracellular cysteine-rich domain.** *Science advances*
  Kinnebrew, M., Woolley, R. E., Ansell, T. B., Byrne, E. F., Frigui, S., Luchetti, G., Sircar, R., Nachtergaele, S., Mydock-McGrane, L., Krishnan, K., Newstead, S., Sansom, M. S., Covey, et al
  2022; 8 (22): eabm5563

- **Patched 1 reduces the accessibility of cholesterol in the outer leaflet of membranes** *ELIFE*
  Kinnebrew, M., Luchetti, G., Sircar, R., Frigui, S., Viti, L., Naito, T., Beckert, F., Saheki, Y., Siebold, C., Radhakrishnan, A., Rohatgi, R.
  2021; 10

- **Gene-teratogen interactions influence the penetrance of birth defects by altering Hedgehog signaling strength.** *Development (Cambridge, England)*
  Kong, J. H., Young, C. B., Pusapati, G. V., Espinoza, F. H., Patel, C. B., Beckert, F., Ho, S., Patel, B. B., Gabriel, G. C., Aravind, L., Bazan, J. F., Gunn, T. M., Lo, et al
  2021

- **Cholesterol access in cellular membranes controls Hedgehog signaling.** *Nature chemical biology*
  Radhakrishnan, A., Rohatgi, R., Siebold, C.
  2020; 16 (12): 1303–13

- **A Membrane-Tethered Ubiquitination Pathway Regulates Hedgehog Signaling and Heart Development.** *Developmental cell*
  Kong, J. H., Young, C. B., Pusapati, G. V., Patel, C. B., Ho, S. n., Krishnan, A. n., Lin, J. I., Devine, W. n., Moreau de Bellaing, A. n., Athni, T. S., Aravind, L. n., Gunn, T. M., Lo, et al
  2020

- **Cholesterol accessibility at the ciliary membrane controls Hedgehog signaling.** *eLife*
  Kinnebrew, M. n., Iverson, E. J., Patel, B. B., Pusapati, G. V., Kong, J. H., Johnson, K. A., Luchetti, G. n., Eckert, K. M., McDonald, J. G., Covey, D. F., Siebold, C. n., Radhakrishnan, A. n., Rohatgi, et al
  2019; 8

- **CRISPR Screens Uncover Genes that Regulate Target Cell Sensitivity to the Morphogen Sonic Hedgehog.** *Developmental cell*
  Pusapati, G. V., Kong, J. H., Patel, B. B., Krishnan, A. n., Sagner, A. n., Kinnebrew, M. n., Briscoe, J. n., Aravind, L. n., Rohatgi, R. n.
  2018; 44 (1): 113–29.e8

- **Cholesterol activates the G-protein coupled receptor Smoothened to promote morphogenetic signaling.** *eLife*
  Luchetti, G., Sircar, R., Kong, J. H., Nachtergaele, S., Sagner, A., Byrne, E. F., Covey, D. F., Siebold, C., Rohatgi, R.
  2016; 5

- **Structural basis of Smoothened regulation by its extracellular domains.** *Nature*
  Byrne, E. F., Sircar, R., Miller, P. S., Hedger, G., Luchetti, G., Nachtergaele, S., Tully, M. D., Mydock-McGrane, L., Covey, D. F., Rambo, R. P., Sansom, M. S., Newstead, S., Rohatgi, et al
  2016; 535 (7613): 517-522

- **Multiple modes of cholesterol translocation in the human Smoothened receptor** *ELIFE*
  Bansal, P. D., Kinnebrew, M., Rohatgi, R., Shukla, D.
  2026; 14

- **Multiple modes of cholesterol translocation in the human Smoothened receptor.** *eLife*
  Bansal, P. D., Kinnebrew, M., Rohatgi, R., Shukla, D.
  2026; 14

- **The TRIP12 E3 ligase induces SWI/SNF component BRG1-β-catenin interaction to promote Wnt signaling.** *Nature communications*
  Kassel, S., Yuan, K., Bunnag, N., Neitzel, L. R., Lu, W., Schwarzkopf, A., Maines, B., Loberg, M. A., Xu, G., Adams, A., McCray, A. D., Cho, A., Rockouski, et al
  2025; 16 (1): 5248

- **Multiple modes of cholesterol translocation in the human Smoothened receptor.** *bioRxiv : the preprint server for biology*
  Bansal, P. D., Kinnebrew, M., Rohatgi, R., Shukla, D.
  2025

- **A cholesterol-binding bacterial toxin provides a strategy for identifying a specific Scap inhibitor that blocks lipid synthesis in animal cells.** *Proceedings of the National Academy of Sciences of the United States of America*
  Xu, S., Smothers, J. C., Rye, D., Endapally, S., Chen, H., Li, S., Liang, G., Kinnebrew, M., Rohatgi, R., Posner, B. A., Radhakrishnan, A.
  2024; 121 (7): e2318024121

- **The USP46 deubiquitylase complex increases Wingless/Wnt signaling strength by stabilizing Arrow/LRP6.** *Nature communications*
  Spencer, Z. T., Ng, V. H., Benchabane, H., Siddiqui, G. S., Duwadi, D., Maines, B., Bryant, J. M., Schwarzkopf, A., Yuan, K., Kassel, S. N., Mishra, A., Pimentel, A., Lebensohn, et al
  2023; 14 (1): 6174

- **The USP46 complex deubiquitylates LRP6 to promote Wnt/β-catenin signaling.** *Nature communications*
  Ng, V. H., Spencer, Z., Neitzel, L. R., Nayak, A., Loberg, M. A., Shen, C., Kassel, S. N., Kroh, H. K., An, Z., Anthony, C. C., Bryant, J. M., Lawson, A., Goldsmith, et al
  2023; 14 (1): 6173

- **The energetics and ion coupling of cholesterol transport through Patched1.** *Science advances*
  Ansell, T. B., Corey, R. A., Viti, L. V., Kinnebrew, M., Rohatgi, R., Siebold, C., Sansom, M. S.
  2023; 9 (34): eadh1609

- **The Energetics and Ion Coupling of Cholesterol Transport Through Patched1.** *bioRxiv : the preprint server for biology*
  Ansell, T. B., Corey, R. A., Viti, L. V., Kinnebrew, M., Rohatgi, R., Siebold, C., Sansom, M. S.
  2023

- **Oxaliplatin disrupts nucleolar function through biophysical disintegration.** *Cell reports*
  Schmidt, H. B., Jaafar, Z. A., Wulff, B. E., Rodencal, J. J., Hong, K., Aziz-Zanjani, M. O., Jackson, P. K., Leonetti, M. D., Dixon, S. J., Rohatgi, R., Brandman, O.
  2022; 41 (6): 111629

- **Receptor control by membrane-tethered ubiquitin ligases in development and tissue homeostasis.** *Current topics in developmental biology*
  Lebensohn, A. M., Bazan, J. F., Rohatgi, R.
  2022; 150: 25-89

- **Measuring and Manipulating Membrane Cholesterol for the Study of Hedgehog Signaling.** *Methods in molecular biology (Clifton, N.J.)*
  Kinnebrew, M., Johnson, K. A., Radhakrishnan, A., Rohatgi, R.

2022; 2374: 73-87

- **Hedgehog-Interacting Protein is a multimodal antagonist of Hedgehog signalling.** *Nature communications*
  Griffiths, S. C., Schwab, R. A., El Omari, K., Bishop, B., Iverson, E. J., Malinauskas, T., Dubey, R., Qian, M., Covey, D. F., Gilbert, R. J., Rohatgi, R., Siebold, C.
  2021; 12 (1): 7171

- **Human-chimpanzee fused cells reveal cis-regulatory divergence underlying skeletal evolution.** *Nature genetics*
  Gokhman, D. n., Agoglia, R. M., Kinnebrew, M. n., Gordon, W. n., Sun, D. n., Bajpai, V. K., Naqvi, S. n., Chen, C. n., Chan, A. n., Chen, C. n., Petrov, D. A., Ahituv, N. n., Zhang, et al
  2021

- **Mutations in GRK2 cause Jeune syndrome by impairing Hedgehog and canonical Wnt signaling** *EMBO MOLECULAR MEDICINE*
  Bosakova, M., Abraham, S. P., Nita, A., Hruba, E., Buchtova, M., Taylor, S., Duran, I., Martin, J., Svozilova, K., Barta, T., Varecha, M., Balek, L., Kohoutek, et al
  2020

- **High-throughput Flow Cytometry Assay to Investigate TDP43 Splicing Function.** *Bio-protocol*
  Schmidt, H. B., Rohatgi, R.
  2020; 10 (8): e3594

- **High-throughput Flow Cytometry Assay to Investigate TDP43 Splicing Function** *BIO-PROTOCOL*
  Schmidt, H., Rohatgi, R.
  2020; 10 (8)

- **Flow Homogenization Enables a Massively Parallel Fluidic Design for High-Throughput and Multiplexed Cell Isolation** *ADVANCED MATERIALS TECHNOLOGIES*
  Ooi, C., Earhart, C. M., Hughes, C. E., Lee, J., Wong, D. J., Wilson, R. J., Rohatgi, R., Wang, S. X.
  2020

- **TDP-43 alpha-helical structure tunes liquid-liquid phase separation and function.** *Proceedings of the National Academy of Sciences of the United States of America*
  Conicella, A. E., Dignon, G. L., Zerze, G. H., Schmidt, H. B., D'Ordine, A. M., Kim, Y. C., Rohatgi, R., Ayala, Y. M., Mittal, J., Fawzi, N. L.
  2020

- **Lipid droplets can promote drug accumulation and activation.** *Nature chemical biology*
  Dubey, R., Stivala, C. E., Nguyen, H. Q., Goo, Y., Paul, A., Carette, J. E., Trost, B. M., Rohatgi, R.
  2020

- **Mutations in GRK2 cause Jeune syndrome by impairing Hedgehog and canonical Wnt signaling.** *EMBO molecular medicine*
  Bosakova, M. n., Abraham, S. P., Nita, A. n., Hruba, E. n., Buchtova, M. n., Taylor, S. P., Duran, I. n., Martin, J. n., Svozilova, K. n., Barta, T. n., Varecha, M. n., Balek, L. n., Kohoutek, et al
  2020; 12 (11): e11739

- **R-spondins engage heparan sulfate proteoglycans to potentiate WNT signaling.** *eLife*
  Dubey, R. n., van Kerkhof, P. n., Jordens, I. n., Malinauskas, T. n., Pusapati, G. V., McKenna, J. K., Li, D. n., Carette, J. E., Ho, M. n., Siebold, C. n., Maurice, M. n., Lebensohn, A. M., Rohatgi, et al
  2020; 9

- **Bile Acid Biosynthesis in Smith-Lemli-Opitz Syndrome Bypassing Cholesterol: Potential Importance of Pathway Intermediates.** *The Journal of steroid biochemistry and molecular biology*
  Abdel-Khalik, J. n., Hearn, T. n., Dickson, A. L., Crick, P. J., Yutuc, E. n., Austin-Muttit, K. n., Bigger, B. W., Morris, A. A., Shackleton, C. H., Clayton, P. T., Iida, T. n., Sircar, R. n., Rohatgi, et al
  2020: 105794

- **Phase separation-deficient TDP43 remains functional in splicing.** *Nature communications*
  Schmidt, H. B., Barreau, A., Rohatgi, R.
  2019; 10 (1): 4890

- **Mechanism, physiological and therapeutic implications of LGR-independent potentiation of WNT signaling by R-spondins**
  Lebensohn, A. M., Rohatgi, R.

AMER ASSOC CANCER RESEARCH.2019

- **Dynamic Remodeling of Membrane Composition Drives Cell Cycle through Primary Cilia Excision** *CELL*
  Phua, S., Chiba, S., Suzuki, M., Su, E., Roberson, E. C., Pusapati, G. V., Schurmans, S., Setou, M., Rohatgi, R., Reiter, J. F., Ikegami, K., Inoue, T.
  2019; 178 (1): 261

- **Cholesterol Interaction Sites on the Transmembrane Domain of the Hedgehog Signal Transducer and Class F G Protein-Coupled Receptor Smoothened** *STRUCTURE*
  Hedger, G., Koldso, H., Chavent, M., Siebold, C., Rohatgi, R., Sansom, M. S. P.
  2019; 27 (3): 549-+

- **Discovery of gene regulatory elements through a new bioinformatics analysis of haploid genetic screens** *PLOS ONE*
  Patel, B. B., Lebensohn, A. M., Pusapati, G. V., Carette, J. E., Salzman, J., Rohatgi, R.
  2019; 14 (1)

- **Discovery of gene regulatory elements through a new bioinformatics analysis of haploid genetic screens.** *PloS one*
  Patel, B. B., Lebensohn, A. M., Pusapati, G. V., Carette, J. E., Salzman, J. n., Rohatgi, R. n.
  2019; 14 (1): e0198463

- **The morphogen Sonic hedgehog inhibits its receptor Patched by a pincer grasp mechanism.** *Nature chemical biology*
  Rudolf, A. F., Kinnebrew, M. n., Kowatsch, C. n., Ansell, T. B., El Omari, K. n., Bishop, B. n., Pardon, E. n., Schwab, R. A., Malinauskas, T. n., Qian, M. n., Duman, R. n., Covey, D. F., Steyaert, et al
  2019

- **Biochemical mechanisms of vertebrate hedgehog signaling.** *Development (Cambridge, England)*
  Kong, J. H., Siebold, C. n., Rohatgi, R. n.
  2019; 146 (10)

- **Structures of vertebrate Patched and Smoothened reveal intimate links between cholesterol and Hedgehog signalling.** *Current opinion in structural biology*
  Kowatsch, C. n., Woolley, R. E., Kinnebrew, M. n., Rohatgi, R. n., Siebold, C. n.
  2019; 57: 204–14

- **Cholesterol Interaction Sites on the Transmembrane Domain of the Hedgehog Signal Transducer and Class F G Protein-Coupled Receptor Smoothened.** *Structure (London, England : 1993)*
  Hedger, G., Koldso, H., Chavent, M., Siebold, C., Rohatgi, R., Sansom, M. S.
  2018

- **R-spondins can potentiate WNT signaling without LGRs** *ELIFE*
  Lebensohn, A. M., Rohatgi, R.
  2018; 7

- **A single N-terminal phosphomimic disrupts TDP-43 polymerization, phase separation, and RNA splicing.** *The EMBO journal*
  Wang, A. n., Conicella, A. E., Schmidt, H. B., Martin, E. W., Rhoads, S. N., Reeb, A. N., Nourse, A. n., Ramirez Montero, D. n., Ryan, V. H., Rohatgi, R. n., Shewmaker, F. n., Naik, M. T., Mittag, et al
  2018; 37 (5)

- **Spatiotemporal manipulation of ciliary glutamylation reveals its roles in intraciliary trafficking and Hedgehog signaling.** *Nature communications*
  Hong, S. R., Wang, C. L., Huang, Y. S., Chang, Y. C., Chang, Y. C., Pusapati, G. V., Lin, C. Y., Hsu, N. n., Cheng, H. C., Chiang, Y. C., Huang, W. E., Shaner, N. C., Rohatgi, et al
  2018; 9 (1): 1732

- **R-spondins can potentiate WNT signaling without LGRs.** *eLife*
  Lebensohn, A. M., Rohatgi, R. n.
  2018; 7

- **G protein-coupled receptors control the sensitivity of cells to the morphogen Sonic Hedgehog.** *Science signaling*
  Pusapati, G. V., Kong, J. H., Patel, B. B., Gouti, M. n., Sagner, A. n., Sircar, R. n., Luchetti, G. n., Ingham, P. W., Briscoe, J. n., Rohatgi, R. n.
  2018; 11 (516)

- **Dynamic Remodeling of Membrane Composition Drives Cell Cycle through Primary Cilia Excision.** *Cell*
  Phua, S. C., Chiba, S., Suzuki, M., Su, E., Roberson, E. C., Pusapati, G. V., Setou, M., Rohatgi, R., Reiter, J. F., Ikegami, K., Inoue, T.
  2017; 168 (1-2): 264-279 e15

- **Multiple ligand binding sites regulate the Hedgehog signal transducer Smoothened in vertebrates.** *Current opinion in cell biology*
  Byrne, E. F., Luchetti, G. n., Rohatgi, R. n., Siebold, C. n.
  2017; 51: 81–88

- **Comparative genetic screens in human cells reveal new regulatory mechanisms in WNT signaling** *ELIFE*
  Lebensohn, A. M., Dubey, R., Neitzel, L. R., Tacchelly-Benites, O., Yang, E., Marceau, C. D., Davis, E. M., Patel, B. B., Bahrami-Nejad, Z., Travaglini, K. J., Ahmed, Y., Lee, E., Carette, et al
  2016; 5

- **Chromatin-Remodeling Complex SWI/SNF Controls Multidrug Resistance by Transcriptionally Regulating the Drug Efflux Pump ABCB1** *CANCER RESEARCH*
  Dubey, R., Lebensohn, A. M., Bahrami-Nejad, Z., Marceau, C., Champion, M., Gevaert, O., Sikic, B. I., Carette, J. E., Rohatgi, R.
  2016; 76 (19): 5810-5821

- **In Vivo Formation of Vacuolated Multi-phase Compartments Lacking Membranes.** *Cell reports*
  Schmidt, H. B., Rohatgi, R.
  2016; 16 (5): 1228-1236

- **An essential role for Grk2 in Hedgehog signalling downstream of Smoothened** *EMBO REPORTS*
  Zhao, Z., Lee, R. T., Pusapati, G. V., Iyu, A., Rohatgi, R., Ingham, P. W.
  2016; 17 (5): 739-752

- **Functional Divergence in the Role of N-Linked Glycosylation in Smoothened Signaling.** *PLoS genetics*
  Marada, S., Navarro, G., Truong, A., Stewart, D. P., Arensdorf, A. M., Nachtergaele, S., Angelats, E., Opferman, J. T., Rohatgi, R., McCormick, P. J., Ogden, S. K.
  2015; 11 (8)

- **Notch Activity Modulates the Responsiveness of Neural Progenitors to Sonic Hedgehog Signaling** *DEVELOPMENTAL CELL*
  Kong, J. H., Yang, L., Dessaud, E., Chuang, K., Moore, D. M., Rohatgi, R., Briscoe, J., Novitch, B. G.
  2015; 33 (4): 373-387

- **Rapid Screening of Gli2/3 Mutants Using the Flp-In System** *HEDGEHOG SIGNALING PROTOCOLS, 2ND EDITION*
  Niewiadomski, P., Rohatgi, R.
  edited by Riobo, N. A.
  2015; 1322: 125-130

- **Measuring Gli2 Phosphorylation by Selected Reaction Monitoring Mass Spectrometry.** *Methods in molecular biology (Clifton, N.J.)*
  Ahrends, R., Niewiadomski, P., Teruel, M. N., Rohatgi, R.
  2015; 1322: 105-123

- **Measuring Expression Levels of Endogenous Gli Genes by Immunoblotting and Real-Time PCR** *HEDGEHOG SIGNALING PROTOCOLS, 2ND EDITION*
  Niewiadomski, P., Rohatgi, R.
  edited by Riobo, N. A.
  2015; 1322: 81-92

- **Location, location, and location: compartmentalization of Hedgehog signaling at primary cilia.** *EMBO journal*
  Pusapati, G. V., Rohatgi, R.
  2014; 33 (17): 1852-1854

- **Frontiers in hedgehog signal transduction** *SEMINARS IN CELL & DEVELOPMENTAL BIOLOGY*
  Guerrero, I., Rohatgi, R.
  2014; 33: 50-51

- **G-protein-coupled receptors, Hedgehog signaling and primary cilia.** *Seminars in cell & developmental biology*
  Mukhopadhyay, S., Rohatgi, R.

2014; 33: 63-72

- **G-protein-coupled receptors, Hedgehog signaling and primary cilia** *SEMINARS IN CELL & DEVELOPMENTAL BIOLOGY*
  Mukhopadhyay, S., Rohatgi, R.
  2014; 33: 63-72
- **A Novel Osteogenic Oxysterol Compound for Therapeutic Development to Promote Bone Growth: Activation of Hedgehog Signaling and Osteogenesis Through Smoothened Binding** *JOURNAL OF BONE AND MINERAL RESEARCH*
  Montgomery, S. R., Nargizyan, T., Meliton, V., Nachtergaele, S., Rohatgi, R., Stappenbeck, F., Jung, M. E., Johnson, J. S., Aghdasi, B., Tian, H., Weintraub, G., Inoue, H., Atti, et al
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