Katherine Rauen, M.D., Ph.D.

Clinical Interests

Dr. Raun is the attending for both the Biochemical Genetics and Dysmorphology services for UC Davis Health and also supervises medical genetics fellows, rotation residents and medical students. In addition, Dr. Rauen covers consult servicesfor Mercy San Juan and Methodist hospitals while on service and also attends at UC Davis MIND Institute Massie Family Clinic.
Dr. Rauen launched the UC Davis NF/Ras Pathway Clinic to provide a multidisciplinary approach to the diagnosis and care of individuals with RASopathies [Neurofibromatosis types 1 and 2, Noonan/LEOPARD, CFC, Costello, Legius syndromes and others], or individuals with a phenotype which is suggestive of a diagnosis in this pathway.

Research/Academic Interests

Dr. Rauen's research focuses on Array CGH, Cardio-Facio-Cutaneous Syndrome, Cancer Genomics, Cancer Syndromes, Clinical Trials, Costello Syndrome, Constitutional Chromosome Aberrations, Cytogenetics, Congenital Abnormalities, Genetic Medicine, Medical Education, Mouse Models, Myogenesis, Myopathy, Neurofibromatosis 1, Noonan Syndrome, Prenatal Genetics, RASopathy, Ras/MAPK Pathway, Small Molecule Inhibitors and Signal Transduction.

Title

Chief, Division of Genomic Medicine
Professor, Department of Pediatrics
Albert Holmes Rowe Endowed Chair in Human Genetics II

Specialty

Genomics, Genetics, RASopathies

Department

Pediatrics

Division

Genomic Medicine

Center/Program Affiliation

UC Davis Children's Hospital
UC Davis MIND Institute
Genome Center

Address/Phone

UC Davis MIND Institute, 2825 50th St. Sacramento, CA 95817

Additional Phone

Clinic Phone: 916-703-0300
Physician Referrals: 800-4-UCDAVIS (800-482-3284)

Education

M.D., UC Irvine College of Medicine, Irvine CA 1995
Ph.D., Genetics, UC Davis, Davis CA 1992
B.S., Biology, California State University, Bakersfield, Bakersfield CA 1981
M.S. Physiology, UC Davis, Davis CA 1985

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Residency
Pediatrics, UC San Francisco, San Francisco CA 1995-1997

Fellowships
Medical Genetics, UC San Francisco, San Francisco CA 1997-2000

Board Certifications
American Board of Medical Genetics
American Board of Pediatrics

Professional Memberships
American College of Medical Genetics and Genomics
American Society of Gene Therapy
American Society of Human Genetics
Association of Professors in Human and Medical Genetics
Society for Pediatric Research
Western Society for Pediatric Research

Honors and Awards
Sacramento Magazine Top Doctor, 2016, 2017, 2018, 2019
Costello Syndrome Family Network Award of Service, 2019
March of Dimes Service Award, 2017, 2018
Award of Service RASopahtiesNet, 2017
Global Genes RARE Champion of Hope Science, 2014
UC Davis Albert Holmes Rowe Endowed Chair in Human Genetics II, 2014
Presidential Early Career Awards for Scientists and Engineers (2012), 2013
Costello Syndrome Family Network Recognition of 10 Years of Service, 2011
Award of Appreciation - Childrens Tumor Foundation, 2010
CFC International Award of Appreciation, 2010
Award of Recognition-UCSF Department of OB/Gyn and Reproductive Sciences, 2009
NF Inc Go the Extra Mile Award, 2009
CFC International Award of Service, 2007
Costello Syndrome Family Network Award of Dedication, 2007
CFC International Achievement Award for Gene Discovery, 2006

Select Recent Publications
Castel P, Rauen KA, McCormick F. The duality of human oncoproteins: drivers of cancer and congenital disorders. Nat Rev Cancer. 2020 Jul;20(7):383-397. doi:10.1038/s41568-020-0256-z. Epub 2020 Apr 27. PMID:32341551.

Gripp KW, Morse LA, Axelrad M, Chatfield KC, Chidekel A, Dobyns W, Doyle D, Kerr B, Lin AE, Schwartz DD, Sibbles BJ, Siegel D, Shankar SP, Stevenson DA, Thacker MM, Weaver KN, White SM, Rauen KA. Costello syndrome: Clinical phenotype, genotype, and management guidelines. Am

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J Med Genet A. 2019 Sep;179(9):1725-1744. doi:10.1002/ajmg.a.61270. Epub 2019 Jun 20. PMID:31222966.

Tidyman WE, Rauen KA. Pathogenetics of the RASopathies. Hum Mol Genet. 2016 Oct 1;25(R2): R123-R132. doi:10.1093/hmg/ddw191. Epub 2016 Jul 12. PMID:27412009.

Tidyman, WE, KA Rauen. Expansion of the RASopathies. Curr Genet Med Rep. 2016 Sep;4(3):57-64. doi:10.1007/s40142-016-0100-7. Epub 2016 Jul 1. PMID:27942422.

Adviento B, Corbin IL, Widjaja F, Desachy G, Enrique N, Rosser T, Risi S, Marco EJ, Hendren RL, Bearden CE, Rauen KA, Weiss LA. Autism traits in the RASopathies. J Med Genet. 2014 Jan;51(1): 10-20. doi:10.1136/jmedgenet-2013-101951. Epub 2013 Oct 7. PMID:24101678.

Siegel DH, McKenzie J, Frieden IJ, Rauen KA. Dermatological findings in 61 mutation-positive individuals with cardiofaciocutaneous syndrome. Br J Dermatol. 2011 Mar;164(3):521-9. doi: 10.1111/j.1365-2133.2010.10122.x. Epub 2011 Jan 28. PMID:21062266.

Rauen KA, Tidyman WE, Estep AL, Sampath S, Peltier HM, Bale SJ, Lacassie Y. Molecular and functional analysis of a novel MEK2 mutation in cardio-facio-cutaneous syndrome: transmission through four generations. Am J Med Genet A. 2010 Apr;152A(4):807-14. doi:10.1002/ajmg.a. 33342. PMID:20358587.

Pierpont ME, Magoulas PL, Adi S, Kavamura MI, Neri G, Noonan J, Pierpont EI, Reinker K, Roberts AE, Shankar S, Sullivan J, Wolford M, Conger B, Santa Cruz M, Rauen KA. Cardio-facio-cutaneous syndrome: clinical features, diagnosis, and management guidelines. Pediatrics. 2014 Oct;134(4):e1149-62. doi:10.1542/peds.2013-3189. Epub 2014 Sep 1. PMID:25180280.

Tidyman WE, Lee HS, Rauen KA. Skeletal muscle pathology in Costello and cardio-facio-cutaneous

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syndromes: developmental consequences of germline Ras/MAPK activation on myogenesis. Am J Med Genet C Semin Med Genet. 2011 May 15;157C(2):104-14. doi:10.1002/ajmg.c.30298. Epub 2011 Apr 14. PMID:21495178.

Rauen KA. The RASopathies. Annu Rev Genomics Hum Genet. 2013;14:355-69. doi:10.1146/annurev-genom-091212-153523. Epub 2013 Jul 15. PMID:23875798.

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