

Publications 2014-2018 Anita Rauch

In 2014-2018 first or senior author of 14, and co-author of 43 peer-reviewed original publications, senior author of 4 reviews, and contributions to 2 book chapters

The complete list of publications (in total 202 peer-reviewed publications (66 as first/senior author), 15 reviews, 6 book chapters) is available at <http://www.researcherid.com/rid/C-5568-2014> (last 20 years H-index: 50)

List of the top 5 cited original publications as first or senior author:

1. **Rauch A**, Wieczorek D, Graf E, Wieland T, Endeke S, Schwarzmayr T, Albrecht B, Bartholdi D, Beygo J, Di Donato N, Dufke A, Cremer K, Hempel M, Horn D, Hoyer J, Joset P, Röpke A, Moog U, Riess A, Thiel CT, Tzschach A, Wiesener A, Wohlleber E, Zweier C, Ekici AB, Zink AM, Rump A, Meisinger C, Grallert H, Sticht H, Schenck A, Engels H, Rappold G, Schröck E, Wieacker P, Riess O, Meitinger T, Reis A, Strom TM: Range of genetic mutations associated with severe non-syndromic sporadic intellectual disability: an exome sequencing study. *Lancet* 2012, 380:1674-1682. (times cited 510)
2. **Rauch A**, Thiel CT, Schindler D, Wick U, Crow YJ, Ekici AB, van Essen AJ, Goecke TO, Al-Gazali L, Chrzanowska KH, Zweier C, Brunner HG, Becker K, Curry CJ, Dallapiccola B, Devriendt K, Dörfler A, Kinning E, Megarbane A, Meinecke P, Semple RK, Spranger S, Toutain A, Trembath RC, Voß E, Wilson L, Hennekam R, de Zegher F, Dörr HG, Reis A: Mutations in the PCNT gene cause primordial dwarfism. *Science* 2008, 319:816-819. (times cited 227)
3. **Rauch A**, Hoyer J, Guth S, Zweier C, Kraus C, Becker C, Zenker M, Huffmeier U, Thiel C, Ruschendorf F, Nürnberg P, Reis A, Trautmann U: Diagnostic yield of various genetic approaches in patients with unexplained developmental delay or mental retardation. *Am J Med Genet* 2006 A140:2063-74. (Journal IF 2.3; times cited 216)
4. Zweier C, de Jong EK, Zweier M, Orrico A, Ousager LB, Collins AL, Bijlsma EK, Oortveld MA, Ekici AB, Reis A, Schenck A, **Rauch A**: CNTNAP2 and NRXN1 are mutated in autosomal-recessive Pitt-Hopkins-like mental retardation and determine the level of a common synaptic protein in Drosophila. *Am J Hum Genet* 2009, 85:655-666. (times cited 201)
5. Pasutto F, Sticht H, Hammersen G, Gillissen-Kaesbach G, FitzPatrick DR, Nürnberg G, Schirmer-Zimmermann H, Tolmie JL, Chitayat D, Houge G, Fernández-Martínez L, Keating S, Mortier G, Hennekam RCM, von der Wense A, Slavotinek A, Meinecke P, Bitoun P, Becker C, Nürnberg P, Reis A and **Rauch A**: Mutations in STRA6 cause a broad spectrum of malformations including anophthalmia, congenital heart defects, diaphragmatic hernia, alveolar capillary dysplasia, lung hypoplasia and mental retardation. *Am J Hum Genet* 2007, 80:550-560. (times cited 199)

1) Peer-reviewed publications in international scientific journals 2014-2018

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202. Stephen J, Maddirevula S, Nampoothiri S, Burke JD, Herzog M, Shukla A, Steindl K, Eskin A, Patil SJ, Joset P, Lee H, Garrett LJ, Yokoyama T, Balandina N, Bodine SP, Tolman NJ, Zerfas PM, Zheng A, Ramantani G, Girisha KM, Rivas C, Suresh PV, Elkahloun A, Alsaif HS, Wakil SM, Mahmoud L, Ali R, Prochazkova M; Undiagnosed Diseases Network members, Kulkarni AB, Ben-Omran T, Colak D, Morris HD, **Rauch A**, Martinez-Agosto JA, Nelson SF, Alkuraya FS, Gahl WA, Malicdan MCV (2018) Bi-allelic TMEM94 Truncating Variants Are Associated with Neurodevelopmental Delay, Congenital Heart Defects, and Distinct Facial Dysmorphism. *Am J Hum Genet* 103:948-967. PMID: 30526868.
201. Popp B, Krumbiegel M, Grosch J, Sommer A, Uebe S, Kohl Z, Plötz S, Farrell M, Trautmann U, Kraus C, Ekici AB, Asadollahi R, Regensburger M, Günther K, **Rauch**

- A**, Edenhofer F, Winkler J, Winner B, Reis A (2018) Need for high-resolution Genetic Analysis in iPSC: Results and Lessons from the ForIPS Consortium. *Sci Rep* 8:17201. PMID: 30464253.
200. Tran Mau-Them F, Guibaud L, Duplomb L, Keren B, Lindstrom K, Marey I, Mochel F, van den Boogaard MJ, Oegema R, Nava C, Masurel A, Jouan T, Jansen FE, Au M, Chen AH, Cho M, Duffourd Y, Lozier E, Konovalov F, Sharkov A, Korostelev S, Urteaga B, Dickson P, Vera M, Martínez-Agosto JA, Begemann A, Zweier M, Schmitt-Mechelke T, **Rauch A**, Philippe C, van Gassen K, Nelson S, Graham JM Jr, Friedman J, Faivre L, Lin HJ, Thauvin-Robinet C, Vitobello A (2018) De novo truncating variants in the intronless IRF2BPL are responsible for developmental epileptic encephalopathy. *Genet Med*. 2018 Aug 31 [Epub ahead of print] PMID: 30166628
199. Gregor A, Sadleir LG, Asadollahi R, Azzarello-Burri S, Battaglia A, Ousager LB, Boonsawat P, Bruel AL, Buchert R, Calpena E, Cogné B, Dallapiccola B, Distelmaier F, Elmslie F, Faivre L, Haack TB, Harrison V, Henderson A, Hunt D, Isidor B, Joset P, Kumada S, Lachmeijer AMA, Lees M, Lynch SA, Martinez F, Matsumoto N, McDougall C, Mefford HC, Miyake N, Myers CT, Moutton S, Nesbitt A, Novelli A, Orellana C, **Rauch A**, Rosello M, Saida K, Santani AB, Sarkar A, Scheffer IE, Shinawi M, Steindl K, Symonds JD, Zackai EH; University of Washington Center for Mendelian Genomics; DDD Study, Reis A, Sticht H, Zweier C (2018) De Novo Variants in the F-Box Protein FBXO11 in 20 Individuals with a Variable Neurodevelopmental Disorder. *Am J Hum Genet* 103:305-316. PMID: 30057029
198. Nahorski MS, Maddirevula S, Ishimura R, Alsahli S, Brady AF, Begemann A, Mizushima T, Guzmán-Vega FJ, Obata M, Ichimura Y, Alsaif HS, Anazi S, Ibrahim N, Abdulwahab F, Hashem M, Monies D, Abouelhoda M, Meyer BF, Alfadhel M, Eyaid W, Zweier M, Steindl K, **Rauch A**, Arold ST, Woods CG, Komatsu M, Alkuraya FS (2018) Biallelic UFM1 and UFC1 mutations expand the essential role of ufmylation in brain development. *Brain* 141:1934-1945 PMID: 29868776
197. Hauer NN, Popp B, Schoeller E, Schuhmann S, Heath KE, Hisado-Oliva A, Klinger P, Kraus C, Trautmann U, Zenker M, Zweier C, Wiesener A, Abou Jamra R, Kunstmann E, Wiczorek D, Uebe S, Ferrazzi F, Büttner C, Ekici AB, **Rauch A**, Sticht H, Dörr HG, Reis A, Thiel CT (2018) Clinical relevance of systematic phenotyping and exome sequencing in patients with short stature *Genet Med*. 2018 Jun;20(6):630-638. doi: 10.1038/gim.2017.159. Epub 2017 Oct 12. PMID: 29758562
196. Stellacci E, Steindl K, Joset P, Mercurio L, Anselmi M, Cecchetti S, Gogoll L, Zweier M, Hackenberg A, Bocchinfuso G, Stella L, Tartaglia M, **Rauch A** (2018) Clinical and functional characterization of two novel ZBTB20 mutations causing Primrose syndrome. *Hum Mutat*. 2018 May 7. doi: 10.1002/humu.23546. [Epub ahead of print] PMID:29737001
195. Wallis M, Baumer A, Smaili W, Jaouad IC, Sefiani A, Jacobson E, Bowyer L, Mowat D, **Rauch A** (2018) Surprisingly good outcome in antenatal diagnosis of severe hydrocephalus related to CCDC88C deficiency. *Eur J Med Genet* [Epub ahead of print] PMID: 29225145
194. Létard P, Drunat S, Vial Y, Duerinckx S, Ernault A, Amram D, Arpin S, Bertoli M, Busa T, Ceulemans B, Desir J, Doco-Fenzy M, Elalaoui SC, Devriendt K, Faivre L, Francannet C, Geneviève D, Gérard M, Gitiaux C, Julia S, Lebon S, Lubala T, Mathieu-Dramard M, Maurey H, Metreau J, Nasserreddine S, Nizon M, Pierquin G, Pouvreau N, Rivier-Ringenbach C, Rossi M, Schaefer E, Sefiani A, Sigaudy S, Sznajder Y, Tunca Y, Guilmin Crepon S, Alberti C, Elmaleh-Bergès M, Benzacken B, Wollnick B, Woods CG, **Rauch A**, Abramowicz M, El Ghouzzi V, Gressens P, Verloes A, Passemard S (2018) Autosomal recessive primary microcephaly due to ASPM mutations: An update. *Hum Mutat* [Epub ahead of print] PMID: 29243349
193. Ivanovski I, Djuric O, Caraffi SG, Santodirocco D, Pollazzon M, Rosato S, Cordelli DM, Abdalla E, Accorsi P, Adam MP, Ajmone PF, Badura-Stronka M, Baldo C, Baldi M, Bayat A, Bigoni S, Bonvicini F, Breckpot J, Callewaert B, Cocchi G, Cuturilo G, De Brasi D, Devriendt K, Dinulos MB, Hjortshøj TD, Epifanio R, Faravelli F, Fiumara A, Formisano D, Giordano L, Grasso M, Grønberg S, Iodice A, Iughetti L, Kuburovic V, Kutkowska-Kazmierczak A, Lacombe D, Lo Rizzo C, Luchetti A, Malbora B,

Mammi I, Mari F, Montorsi G, Moutton S, Møller RS, Muschke P, Nielsen JEK, Obersztyn E, Pantaleoni C, Pellicciari A, Pisanti MA, Prpic I, Poch-Olive ML, Raviglione F, Renieri A, Ricci E, Rivieri F, Santen GW, Savasta S, Scarano G, Schanze I, Selicorni A, Silengo M, Smigiel R, Spaccini L, Sorge G, Szczaluba K, Tarani L, Tone LG, Toutain A, Trimouille A, Valera ET, Vergano SS, Zanotta N, Zenker M, Conidi A, Zollino M, **Rauch A**, Zweier C, Garavelli L (2018) Phenotype and genotype of 87 patients with Mowat-Wilson syndrome and recommendations for care. *Genet Med* [Epub ahead of print] PMID: 29300384

192. Asadollahi R, Strauss JE, Zenker M, Beuing O, Edvardson S, Elpeleg O, Strom T, Joset P, Niedrist D, Otte C, Oneda B, Boonsawat P, Azzarello-Burri S, Bartholdi D, Papik M, Zweier M, Haas C, Ekici A, Baumer A, Boltshauser E, Steindl K, Nothnagel M, Schinzel A, Stoeckli ET, **Rauch A** (2018) Clinical and experimental evidence suggest a link between KIF7 and C5orf42-related ciliopathies through Sonic Hedgehog signaling. *Eur J Hum Genet* [Epub ahead of print] PMID: 29321670
191. Pasutto F, Flinter F, **Rauch A**, Reis A (2018) Novel STRA6 null mutations in the original family described with Matthew-Wood syndrome. *Am J Med Genet A* 176:134-138. PMID: 29168296

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190. Grünblatt E*, Oneda B*, Ekici AB, Ball J, Geissler J, Uebe S, Romanos M, **Rauch A***, **Walitza S*** (2017) High resolution chromosomal microarray analysis in paediatric obsessive-compulsive disorder. *BMC Med Genomics* 10:68. PMID: 29179725
189. Tan TY, Gonzaga-Jauregui C, Bhoj EJ, Strauss KA, Brigatti K, Puffenberger E, Li D, Xie L, Das N, Skubas I, Deckelbaum RA, Hughes V, Brydges S, Hatsell S, Siao CJ, Dominguez MG, Economides A, Overton JD, Mayne V, Simm PJ, Jones BO, Eggers S, Le Guyader G, Pelluard F, Haack TB, Sturm M, Riess A, Waldmueller S, Hofbeck M, Steindl K, Joset P, **Rauch A**, Hakonarson H, Baker NL, Farlie PG (2017) Monoallelic BMP2 Variants Predicted to Result in Haploinsufficiency Cause Craniofacial, Skeletal, and Cardiac Features Overlapping Those of 20p12 Deletions. *Am J Hum Genet* 101:985-994. PMID: 29198724
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187. Oneda B, Asadollahi R, Azzarello-Burri S, Niedrist D, Baldinger R, Masood R, Schinzel A, Latal B, Jenni OG, **Rauch A** (2017) Low-Level Chromosomal Mosaicism in Neurodevelopmental Disorders. *Mol Syndromol* 8:266-271. PMID: 28878611.
186. Asadollahi R, Zweier M, Gogoll L, Schiffmann R, Sticht H, Steindl K, **Rauch A** (2017) Genotype-phenotype evaluation of MED13L defects in the light of a novel truncating and a recurrent missense mutation. *Eur J Med Genet* 60:451-464. PMID: 28645799.
185. Gabriele M, Vulto-van Silfhout AT, Germain PL, Vitriolo A, Kumar R, Douglas E, Haan E, Kosaki K, Takenouchi T, **Rauch A**, Steindl K, Frengen E, Misceo D, Pedurupillay CRJ, Stromme P, Rosenfeld JA, Shao Y, Craigen WJ, Schaaf CP, Rodriguez-Buritica D, Farach L, Friedman J, Thulin P, McLean SD, Nugent KM, Morton J, Nicholl J, Andrieux J, Stray-Pedersen A, Chambon P, Patrier S, Lynch SA, Kjaergaard S, Tørring PM, Brasch-Andersen C, Ronan A, van Heringen A, Anderson PJ, Powis Z, Brunner HG, Pfundt R, Schuurs-Hoeijmakers JHM, van Bon BWM, Lelieveld S, Gilissen C, Nillesen WM, Vissers LELM, Gecz J, Koolen DA, Testa G, de Vries BBA (2017) YY1 Haploinsufficiency Causes an Intellectual Disability Syndrome Featuring Transcriptional and Chromatin Dysfunction. *Am J Hum Genet* 100:907-925. PMID: 28575647.
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183. Plecko B, Zweier M, Begemann A, Mathis D, Schmitt B, Striano P, Baethmann M,

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182. Zweier M, Peippo MM, Pöyhönen M, Kääriäinen H, Begemann A, Joset P, Oneda B, **Rauch A** (2017) The HHID syndrome of hypertrichosis, hyperkeratosis, abnormal corpus callosum, intellectual disability, and minor anomalies is caused by mutations in ARID1B. *Am J Med Genet A* 173:1440-1443; doi: 10.1002/ajmg.a.38143 PMID: 28323383.
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180. Shaw ND, Brand H, Kupchinsky ZA, Bengani H, Plummer L, Jones TI, Erdin S, Williamson KA, Rainger J, Stortchevoi A, Samocha K, Currall BB, Dunican DS, Collins RL, Willer JR, Lek A, Lek M, Nassan M, Pereira S, Kammin T, Lucente D, Silva A, Seabra CM, Chiang C, An Y, Ansari M, Rainger JK, Joss S, Smith JC, Lippincott MF, Singh SS, Patel N, Jing JW, Law JR, Ferraro N, Verloes A, **Rauch A**, Steindl K, Zweier M, Scheer I, Sato D, Okamoto N, Jacobsen C, Tryggstad J, Chernausek S, Schimmenti LA, Brasseur B, Cesaretti C, García-Ortiz JE, Buitrago TP, Silva OP, Hoffman JD, Mühlbauer W, Ruprecht KW, Loeys BL, Shino M, Kaindl AM, Cho CH, Morton CC, Meehan RR, van Heyningen V, Liao EC, Balasubramanian R, Hall JE, Seminara SB, Macarthur D, Moore SA, Yoshiura KI, Gusella JF, Marsh JA, Graham JM Jr, Lin AE, Katsanis N, Jones PL, Crowley WF Jr, Davis EE, FitzPatrick DR, Talkowski ME (2017) SMCHD1 mutations associated with a rare muscular dystrophy can also cause isolated arhinia and Bosma arhinia microphthalmia syndrome. *Nat Genet* 49:238-248; PMID:28067909; doi: 10.1038/ng.3743
179. Reuter MS, Riess A, Moog U, Briggs TA, Chandler KE, **Rauch A**, Stampfer M, Steindl K, Gläser D, Joset P; DDD Study., Krumbiegel M, Rabe H, Schulte-Mattler U, Bauer P, Beck-Wödl S, Kohlhase J, Reis A, Zweier C (2017) FOXP2 variants in 14 individuals with developmental speech and language disorders broaden the mutational and clinical spectrum. *J Med Genet* 54:64-72; PMID:27572252; doi: 10.1136/jmedgenet-2016-104094.

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177. Mathis D, Abela L, Albersen M, Bürer C, Crowther L, Beese K, Hartmann H, Bok LA, Struys E, Papuc SM, **Rauch A**, Hersberger M, Verhoeven-Duif NM, Plecko B (2016) The value of plasma vitamin B6 profiles in early onset epileptic encephalopathies. *J Inherit Metab Dis*. 39:733-741
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175. Mignot C, von Stülpnagel C, Nava C, Ville D, Sanlaville D, Lesca G, Rastetter A, Gachet B, Marie Y, Korenke GC, Borggraefe I, Hoffmann-Zacharska D, Szczepanik E, Rudzka-Dybała M, Yiş U, Çağlayan H, Isapof A, Marey I, Panagiotakaki E, Korff C, Rossier E, Riess A, Beck-Woedl S, **Rauch A**, Zweier C, Hoyer J, Reis A, Mironov

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174. Chong JX, Yu JH, Lorentzen P, Park KM, Jamal SM, Tabor HK, **Rauch A**, Saenz MS, Boltshauser E, Patterson KE, Nickerson DA, Bamshad MJ (2016) Gene discovery for Mendelian conditions via social networking: de novo variants in KDM1A cause developmental delay and distinctive facial features. *Genet Med* 18:788-795
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2) Reviews 2014-2018

15. Oneda B, **Rauch A** (2017) Microarrays in prenatal diagnosis. *Best Pract Res Clin Obstet Gynaecol.* doi:10.1016/j.bpobgyn.2017.01.003. [Epub ahead of print] PMID: 28215395.
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C) Contributions to books 2014-2018

6. **Expert adviser** for the chapter "Intellectual disability" in Firth HV & Hurst JA (2017) *Oxford Desk Reference Clinical Genetics and Genomics*, 2nd edition, Oxford University Press
5. Imthurn B, Berger W, Macas E, Magyar I, Oneda B, **Rauch A**, Xie M (2015): "Chapter 8: Polar body diagnosis (PBD): an alternative and supplement to preimplantation diagnosis for single embryo transfer" in Scott Sills E (Ed.) *Screening the Single Euploid Embryo, Molecular Genetics in Reproductive Medicine*, Springer

D) Oral contributions to international conferences / workshops (2014-2018)

Date	Meeting/Symposium	Location	Title of presentation
10.11.2014	Manchester bianual Birth defects meeting	Manchester (UK)	2 novel entities with borderline IQ caused by 5p deletions
06.-10.05.2014	3rd COURSE IN NEXT GENERATION SEQUENCING	Bertinoro di Romagna (Italy)	Exome diagnostics in intellectual disability
23.-25.01.2014	39th Annual Conference of Indian Society of Human Genetics and International conference on Human Genetics	Ahmedabad (India)	Non-syndromic sporadic intellectual disability: an exome sequencing study
25.-	35th Annual David W.	Wisconsin	The significance of small copy

30.07.2014	Smith Workshop on Malformations and Morphogenesis	(USA)	number variants in neuro-developmental disorders
14.- 19.08.2015	36th Annual David W. Smith Workshop on Malformations and Morphogenesis	St. Michaels, Maryland (USA)	Clinical and experimental evidence establish a link between KIF7 and C5orf42-related ciliopathies
13.- 16.05.2015	4th COURSE IN NEXT GENERATION SEQUENCING	Bertinoro (Italy)	Exome diagnostics in intellectual disability
19.09.2015	Opening Symposium of the Center of Human Safety & Health and Genome Diagnostic Analysis	Dubai	Genetic Testing in Personalized Medicine
15.- 17.04.2015	Annual meeting of the German Society of Human Genetics	Graz (Austria)	High-Resolution microarray testing in prenatal diagnosis significantly increases diagnostic yield
02.10.2015	Symposium Human Genetics in the Era of Translational Medicine	Erlangen (Germany)	Individual Genomes and Personalized Medicine
9.- 11.09.2015	European Dysmorphology Meeting	Strasbourg (France)	KDM1A mutations in intellectual disability
06.- 09.06.2015	Annual meeting of the European Society of Human Genetics	Glasgow (Scotland)	NGS in diagnostics: Challenging example cases
03.12.2016	Symposium in Honor of Prof. Dr. John M. Opitz	Salt Lake City (USA)	A Praise to Clinical Genetics
29.05.2017	Annual meeting of the European Society of Human Genetics	Copenhagen (Denmark)	Clinical Exomes
11- 13.04.2018	The Translational Science of Rare Disease	Tutzing (Germany)	New insights into the etiology of epileptic encephalopathy
05.- 07.09.2018	European Dysmorphology Meeting	Strasbourg (France)	SURPRISING TWIST IN A LONG-LASTING UNKNOWN CASE WITH SYNDROMIC PRIMARY MICROCEPHALY
15.11.2018	Annual meeting of the Portuguese Society of Human Genetics	Porto (Portugal)	Keynote Lecture: The Genetic Landscape of ID