

Title: Primary Autosomal Recessive Microcephalies and Seckel Syndrome Spectrum Disorders *GeneReview* Table 6

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Note: The following information is provided by the authors listed above and has not been reviewed by *GeneReviews* staff.

Table 6. Published Pathogenic *WDR62* Allelic Variants (Based on NM_001083961.1 and NP_001077430.1 Reference Sequences)

DNA Nucleotide Change	Protein Amino Acid Change
c.193G>A [Nicholas et al 2010, Yu et al 2010]	p.Val65Met
c.332G>C [Sajid Hussain et al 2013]	p.Arg111Thr
c.363delT [Yu et al 2010]	p.Asp112MetfsTer5
c.535_536insA [Bhat et al 2011]	p.Met179fsTer21
c.671G>C [Bilguvar et al 2010]	p.Trp224Ser
c.900C>A [Bhat et al 2011]	p.Cys300Ter
c.1043+1G>A [Yu et al 2010]	p.Ser348ArgfsTer63
c.1194G>A [Sajid Hussain et al 2013]	p.Trp398Ter
c.1198G >A [Bacino et al 2012]	p.Gln400Lys
c.1313G>A [Nicholas et al 2010, Kousar et al 2011, Sajid Hussain et al 2013]	p.Arg438His
c.1408C>T [Bilguvar et al 2010]	p.Gln470Ter
c.1143delA [Memon et al 2013]	p.His381ProfsTer48
c.1531G>A [Nicholas et al 2010, Kousar et al 2011]	p.Asp511Asn
c.1576G>T [Bilguvar et al 2010]	p.Glu526Ter
c.1576G>A [Bilguvar et al 2010]	p.Glu526Lys
c.1942 C>T [Kousar et al 2011]	p.Gln648Ter
c.2083delA [Murdock et al 2011]	p.Ser696AlafsTer4
c.2867 + 4_c2867 + 7delGGTG [Yu et al 2010]	p.Ser956CysfsTer38
c.3232G>A [Nicholas et al 2010]	p.Ala1078Thr
c.3361delG [Sajid Hussain et al 2013]	p.Ala1121GlnfsTer6

DNA Nucleotide Change	Protein Amino Acid Change
c.3503G>A [Sajid Hussain et al 2013]	p.Trp1168
c.3839_3855delGCCAAGAGCCTGCCCTG YU [Bilguvar et al 2010]	p.Gly1280AfsTer21
c.3936dupC/c.3936_3937insC [Yu et al 2010, Kousar et al 2011]	p.Val1314ArgfsTer18/p.Val1313GlyfsTer17
c.4205delTGCC [Bilguvar et al 2010, Nicholas et al 2010]	p.Val1402GlyfsTer12
c.4241dupT [Bilguvar et al 2010]	p.Leu1414LeufsTer41

See [Quick Reference](#) for an explanation of nomenclature. *GeneReviews* follows the standard naming conventions of the Human Genome Variation Society (www.hgvs.org).

References

- Bacino CA, Arriola LA, Wiszniewska J, Bonnen PE. WDR62 missense mutation in a consanguineous family with primary microcephaly. *Am J Med Genet A*. 2012;158A:622-5.
- Bhat V, Girimaji SC, Mohan G, Arvinda HR, Singhmar P, Duvvari MR, Kumar A. Mutations in WDR62, encoding a centrosomal and nuclear protein, in Indian primary microcephaly families with cortical malformations. *Clin Genet*. 2011;80:532-40.
- Bilguvar K, Oztürk AK, Louvi A, Kwan KY, Choi M, Tatli B, Yalnizoğlu D, Tüysüz B, Çağlayan AO, Gökben S, Kaymakçalan H, Barak T, Bakircioğlu M, Yasuno K, Ho W, Sanders S, Zhu Y, Yılmaz S, Dinçer A, Johnson MH, Bronen RA, Koçer N, Per H, Mane S, Pamir MN, Yalçinkaya C, Kumandaş S, Topçu M, Özmen M, Sestan N, Lifton RP, State MW, Günel M. Whole-exome sequencing identifies recessive WDR62 mutations in severe brain malformations. *Nature*. 2010;467:207-10.
- Kousar R, Hassan MJ, Khan B, Basit S, Mahmood S, Mir A, Ahmad W, Ansar M. Mutations in WDR62 gene in Pakistani families with autosomal recessive primary microcephaly. *BMC Neurol*. 2011;11:119.
- Memon MM, Raza SI, Basit S, Kousar R, Ahmad W, Ansar M. A novel WDR62 mutation causes primary microcephaly in a Pakistani family. *Mol Biol Rep*. 2013;40:591-5
- Murdock DR, Clark GD, Bainbridge MN, Newsham I, Wu YQ, Muzny DM, Cheung SW, Gibbs RA, Ramocki MB. Whole-exome sequencing identifies compound heterozygous mutations in WDR62 in siblings with recurrent polymicrogyria. *Am J Med Genet A*. 2011;155A:2071-7.
- Nicholas AK, Khurshid M, Désir J, Carvalho OP, Cox JJ, Thornton G, Kausar R, Ansar M, Ahmad W, Verloes A, Passemard S, Misson JP, Lindsay S, Gergely F, Dobyns WB, Roberts E, Abramowicz M, Woods CG. WDR62 is associated with the spindle pole and is mutated in human microcephaly. *Nat Genet*. 2010;42:1010-4.
- Sajid Hussain M, Marriam Bakhtiar S, Farooq M, Anjum I, Janzen E, Reza Toliat M, Eiberg H, Kjaer KW, Tommerup N, Noegel AA, Nürnberg P, Baig SM, Hansen L. Genetic heterogeneity in Pakistani microcephaly families. *Clin Genet*. 2013;83:446-51.
- Yu TW, Mochida GH, Tischfield DJ, Sgaier SK, Flores-Sarnat L, Sergi CM, Topçu M, McDonald MT, Barry BJ, Felie JM, Sunu C, Dobyns WB, Folkerth RD, Barkovich AJ, Walsh CA. Mutations in WDR62, encoding a centrosome-associated protein, cause microcephaly with simplified gyri and abnormal cortical architecture. *Nat Genet*. 2010;42:1015-20.