

# WES MOVEMENT DISORDERS DG 3.2

<i>Gene</i>	<i>Median coverage</i>	<i>% covered &gt;10x</i>	<i>% covered &gt;20x</i>	<i>OMIM disease ID</i>
AARS2	131.7	100.0	99.4	615889
ABCB7	122.8	99.5	97.1	301310
ABCD1	80.1	76.0	72.6	300100
ABHD12	81.7	91.7	86.0	612674
ACTB	80.2	99.9	97.2	607371
ADAR	104.8	100.0	99.4	615010
ADCY5	133.1	95.9	92.5	606703
ADGRG1	154.2	100.0	100.0	606854
ADPRS	141.6	100.0	99.9	618170
AFG3L2	98.3	94.6	86.3	610246
AGA	159.9	100.0	99.9	208400
AGTPBP1	127.9	96.3	94.2	618276
AIMP1	72.1	99.2	92.5	260600
ALDH18A1	120.0	100.0	99.9	601162;616603
ALDH3A2	112.0	88.8	88.4	270200
ALDH5A1	93.1	92.4	83.5	271980
ALS2	155.0	99.9	99.8	607225
AMPD2	140.3	99.8	99.0	615809
ANO10	116.3	99.2	96.6	613728
ANO3	118.3	91.8	90.4	615034
AP4B1	118.8	99.8	98.5	614066
AP4E1	103.2	99.5	98.6	613744
AP4M1	136.9	99.8	97.8	612936
AP4S1	70.1	78.9	71.0	614067
APTX	98.5	94.1	90.6	208920

ARG1	134.7	92.9	92.9	207800
ARSA	120.1	100.0	99.8	250100
ARX	41.3	82.1	67.5	309510
ASPA	132.4	99.9	99.1	271900
ATCAY	160.6	100.0	100.0	601238
ATL1	154.9	99.9	99.5	182600
ATM	115.1	99.4	97.1	208900
ATP13A2	141.0	100.0	99.6	606693
ATP1A2	171.1	100.0	99.8	104290
ATP1A3	174.1	100.0	99.9	128235
ATP2B3	138.3	99.7	97.4	302500
ATP7B	127.3	99.9	99.2	277900
B4GALNT1	142.4	98.3	93.5	609195
BCAP31	67.6	92.1	79.1	300475
BCKDHA	192.2	99.8	97.9	248600
BCKDHB	125.5	99.8	95.4	248600
BCL11B	109.8	99.6	96.5	618092
BRAT1	139.8	99.9	98.9	618056
BSCL2	104.6	100.0	99.9	270685
BTD	106.1	83.0	82.9	253260
C12orf65	78.9	99.0	94.5	615035
C19orf12	122.8	100.0	99.8	614298
CA8	107.9	99.4	96.6	613227
CACNA1A	85.3	93.1	88.4	108500
CACNA1E	132.2	100.0	99.8	618285
CACNA1G	155.7	100.0	99.2	616795
CACNB4	104.3	95.8	94.4	601949
CAMTA1	183.1	99.6	99.0	614756
CAPN1	171.0	100.0	100.0	616907
CCT5	123.5	99.9	99.3	256840

CHMP1A	129.4	100.0	99.6	614961
CLCN2	115.7	100.0	99.3	615651
CLCN4	109.2	99.9	97.7	300114
CLN5	106.5	69.0	66.3	256731
CLN6	136.4	99.9	98.9	601780
CLP1	117.5	100.0	100.0	615803
CLPB	121.2	94.9	94.0	616271
COASY	173.4	100.0	100.0	615643
COL4A1	103.1	99.0	97.0	175780
COL4A2	115.6	100.0	99.6	614483
COL6A1	162.6	100.0	99.7	254090
COL6A2	180.4	100.0	99.8	254090
COL6A3	156.0	100.0	99.7	254090
COQ2	83.7	97.6	96.7	607426
COQ4	92.0	91.0	89.7	616276
COQ8A	166.1	100.0	99.6	607426
COQ9	69.5	100.0	98.7	607426
COX20	62.9	95.7	82.4	220110
CP	108.0	92.6	85.2	604290
CSF1R	120.5	100.0	99.6	221820
CSTB	72.5	99.6	90.5	254800
CTBP1	108.5	94.3	86.9	617915
CTSD	174.4	98.4	95.0	610127
CTSF	114.5	83.9	78.9	615362
CWF19L1	109.6	100.0	99.6	616120
CYP27A1	165.1	99.7	98.1	213700
CYP2U1	125.9	95.3	92.0	615030
CYP7B1	111.4	98.1	92.7	270800
DARS1	134.5	99.5	99.3	615281
DARS2	120.7	94.8	93.8	611105

DBT	112.5	99.1	96.1	248600
DCAF17	92.0	98.5	93.4	241080
DCC	124.0	100.0	100.0	157600
DCTN1	116.9	99.8	98.4	168605
DDC	101.9	99.2	95.0	608643
DDHD1	142.3	98.5	96.5	609340
DDHD2	131.5	99.7	99.5	615033
DHDDS	80.8	99.4	95.6	617836
DLAT	98.4	99.8	99.3	245348
DLD	112.4	99.9	99.7	248600
DNAJC12	155.7	87.4	87.3	617384
DNAJC3	121.4	99.7	99.7	616192
DNAL4	71.9	99.8	95.2	616059
DNM1L	118.8	99.6	98.3	614388
DNMT1	117.3	99.2	98.8	604121
DPYS	118.4	100.0	100.0	222748
ECHS1	97.3	100.0	99.4	616277
EIF2B1	121.8	100.0	99.8	603896
EIF2B2	119.0	100.0	98.1	603896
EIF2B3	145.4	100.0	100.0	603896
EIF2B4	125.5	100.0	99.5	603896
EIF2B5	104.1	99.8	98.5	603896
ELOVL4	104.8	99.7	98.9	133190
ELOVL5	108.0	100.0	99.4	615957
ERLIN2	119.7	100.0	99.1	611225
ETHE1	85.4	99.3	93.3	602473
EXOSC3	120.9	98.1	90.5	614678
EXOSC5	157.8	100.0	100.0	-
EXOSC8	75.3	98.7	90.0	616081
EXOSC9	140.4	99.3	94.7	618065

FA2H	86.5	92.4	82.6	612319
FAM126A	122.3	99.5	99.4	610532
FAR1	77.6	97.4	94.0	616154
FARS2	180.1	100.0	100.0	614946
FBXO7	178.8	99.8	98.3	260300
FGF14	190.5	100.0	100.0	609307
FLVCR1	142.6	99.7	98.3	609033
FOLR1	103.2	100.0	99.9	613068
FRMD7	99.7	99.9	98.1	310700
FTL	134.8	98.6	88.5	606159
GALC	98.7	99.7	97.6	245200
GAN	147.0	99.9	98.8	256850
GBA	179.6	100.0	100.0	231000
GBA2	151.2	100.0	99.5	614409
GBE1	172.1	99.9	99.7	263570
GCDH	157.8	100.0	99.2	231670
GCH1	78.0	99.9	97.3	128230
GDAP2	114.9	99.7	99.0	618369
GFAP	101.2	91.7	89.5	203450
GJC2	40.5	82.3	64.5	613206
GLB1	77.0	99.2	92.8	230650
GNAL	124.7	96.8	93.3	615073
GOSR2	136.1	96.0	95.1	614018
GPR143	60.2	86.3	74.8	300814
GRID2	159.5	100.0	99.8	616204
GRIN1	162.9	100.0	99.9	614254
GRIN2B	155.5	99.6	98.7	616139;613970
GRM1	154.8	100.0	99.5	614831
GRN	178.3	100.0	100.0	614706
HACE1	146.1	99.7	99.3	616756

HEXB	174.4	99.4	96.6	268800
HK1	120.9	100.0	99.9	618547
HPCA	267.1	100.0	100.0	224500
HPDL	208.5	100.0	100.0	No OMIM phenotype
HPRT1	67.0	98.6	90.6	300322
HSD17B4	114.3	95.3	92.8	233400
HSPD1	81.1	96.7	90.0	605280
IBA57	129.2	95.4	91.7	616451
IRF2BPL	160.3	100.0	97.9	618088
ISCA2	110.4	99.8	96.5	616370
ITPR1	131.7	100.0	99.5	606658
JAM2	106.7	99.9	99.7	618824
JAM3	134.7	100.0	100.0	613730
KATNB1	146.7	100.0	100.0	616212
KCNA1	144.1	100.0	100.0	160120
KCNA2	132.6	100.0	99.6	616366
KCNC1	163.2	100.0	100.0	616187
KCNC3	108.4	76.9	64.2	605259
KCND3	168.3	100.0	98.6	607346
KCNJ10	146.8	89.2	88.5	612780
KCNJ6	156.8	100.0	100.0	614098
KCNMA1	105.6	94.0	93.0	609446
KCTD7	161.4	95.0	95.0	611726
KIDINS220	143.1	100.0	99.9	617296
KIF1A	116.1	97.4	95.3	610357
KIF1C	153.1	100.0	99.7	611302
KIF5A	123.5	100.0	99.8	604187
KMT2B	143.6	96.2	94.0	617284
L1CAM	132.7	100.0	98.8	303350
LAMA1	123.5	99.9	99.3	615960

LAMB1	143.0	100.0	99.6	615191
LMNB1	101.1	99.9	99.2	169500
MAG	163.9	100.0	100.0	616680
MAPK8IP3	164.3	99.4	99.0	618443
MARS2	159.8	100.0	100.0	611390
MECP2	128.3	99.8	97.5	300673
MECR	104.1	100.0	98.7	617282
MFF	88.3	93.9	89.4	617086
MFSD8	121.3	99.6	99.4	610951
MICU1	112.0	97.3	92.2	615673
MLC1	99.5	100.0	98.8	604004
MMADHC	90.8	91.6	81.3	277410
MRE11	49.6	98.2	88.6	604391
MTHFR	111.9	97.3	95.9	236250
MTPAP	131.9	99.1	94.1	613672
MTTP	113.1	99.9	99.2	200100
MYORG	201.0	100.0	100.0	618317
NANS	98.3	100.0	99.9	610442
NARS2	116.3	97.9	97.1	616239
NEFL	156.9	99.4	96.8	607684
NEU1	144.9	99.3	96.1	256550
NEXMIF	129.9	99.9	99.0	300912
NF2	103.5	100.0	99.6	101000
NGLY1	142.3	99.8	99.7	615273
NIPA1	164.2	100.0	100.0	600363
NKX2-1	67.3	99.3	89.3	610978
NKX6-2	81.6	88.2	81.9	617560
NOL3	95.2	95.1	87.0	614937
NPC1	114.4	99.9	99.0	257220
NPC2	136.0	100.0	99.2	607625

NT5C2	126.3	97.7	94.6	613162
NUP62	106.6	100.0	100.0	271930
OCLN	193.1	100.0	99.9	251290
OPA1	128.7	99.5	96.7	165500
OPHN1	88.4	99.3	96.3	300486
PACS2	164.7	99.8	97.1	618067
PANK2	159.3	100.0	99.7	234200
PAX6	117.9	100.0	99.9	206700
PCYT2	144.6	100.0	98.3	618770
PDE10A	81.7	65.7	64.3	616922;616921
PDE8B	99.9	100.0	99.4	609161
PDGFB	125.7	100.0	100.0	615483
PDGFRB	143.8	99.2	97.3	615007
PDHA1	85.2	98.8	95.9	312170
PDHX	143.5	99.8	99.6	245349
PDSS1	110.5	95.2	87.8	607426
PDSS2	112.7	98.4	94.3	607426
PDYN	136.1	100.0	100.0	131340
PEX10	105.9	98.8	90.6	202370
PEX2	133.2	100.0	100.0	614867
PEX7	113.8	88.0	81.0	266500
PHYH	71.1	100.0	98.9	266500
PIK3R5	125.9	100.0	99.9	615217
PLA2G6	111.6	92.1	90.7	612953
PLP1	117.9	99.9	97.7	312920
PMM2	127.8	99.8	99.8	212065
PMP22	110.9	100.0	100.0	145900
PMPCA	105.8	97.6	93.5	213200
PNKD	138.3	100.0	99.9	118800
PNKP	115.5	100.0	100.0	616267

PNPLA6	144.9	100.0	99.8	612020
POLG	113.2	99.9	98.8	607459
POLR1C	83.8	89.6	84.8	616494
POLR3A	115.6	99.9	99.0	607694
POLR3B	131.0	99.7	97.6	614381
PPT1	137.3	90.3	89.9	256730
PRF1	121.1	91.2	90.1	603553
PRICKLE1	97.2	100.0	99.9	612437
PRKCG	139.0	99.9	98.3	605361
PRKRA	175.9	99.8	99.5	612067
PRRT2	121.3	100.0	98.8	128200
PSAP	99.1	100.0	99.6	611722
PTRH2	223.0	100.0	100.0	No OMIM phenotype
PTS	104.8	99.5	99.0	261640
PUM1	130.9	100.0	99.4	617931
PYCR2	127.2	100.0	99.3	616420
QDPR	97.7	100.0	98.9	261630
RAB18	73.6	98.9	94.5	614222
RAB3GAP1	119.5	99.2	98.7	600118
RAB3GAP2	90.7	99.1	96.3	614225
RAD51	96.5	89.4	89.4	614508
RARS1	94.8	94.1	91.8	616140
RARS2	104.3	99.7	98.6	611523
REEP1	68.3	78.6	76.4	610250
RNASEH2A	140.3	100.0	99.7	610333
RNASEH2B	97.2	81.0	78.2	610181
RNASEH2C	271.1	100.0	100.0	610329
RNF170	118.0	98.2	94.2	608984
RNF216	125.9	99.6	98.2	212840
RTN2	135.7	99.9	99.1	604805

RUBCN	105.6	99.7	97.9	615705
SACS	151.3	99.9	99.9	270550
SAMD9L	169.1	100.0	99.9	159550
SAMHD1	137.6	98.5	97.9	612952
SCN11A	117.7	99.3	97.5	615548
SCN1A	125.3	99.7	99.1	607208
SCN2A	142.3	99.4	97.4	618924
SCN8A	168.5	100.0	99.5	614306
SEPSECS	154.7	99.9	99.6	613811
SERAC1	108.9	99.6	99.5	614739
SETX	156.3	99.8	99.6	606002
SGCE	91.2	88.0	83.7	159900
SIL1	148.1	98.7	96.0	248800
SLC12A6	125.8	100.0	100.0	218000
SLC16A2	58.9	97.6	88.4	300523
SLC19A3	130.4	97.8	97.0	607483
SLC1A3	105.5	100.0	100.0	612656
SLC20A2	104.6	99.9	97.6	213600
SLC25A15	161.2	99.3	96.6	238970
SLC2A1	164.2	92.8	92.7	612126
SLC30A10	162.7	100.0	100.0	613280
SLC33A1	120.6	99.8	98.5	612539
SLC39A14	102.8	100.0	99.0	617013
SLC52A2	171.9	100.0	100.0	614707
SLC52A3	127.1	100.0	100.0	211530
SLC6A3	146.8	100.0	99.9	613135
SLC9A1	168.2	100.0	100.0	616291
SMDT1	155.0	100.0	100.0	No OMIM phenotype
SMPD1	154.8	100.0	99.9	257200
SNCA	85.2	79.1	79.1	605543

SNORD118				614561
SNX14	81.0	98.9	93.6	616354
SOX10	69.2	99.9	97.2	611584
SPART	137.8	99.7	96.4	275900
SPAST	96.0	99.4	98.1	182601
SPG11	119.3	99.8	99.0	604360
SPG21	123.5	98.9	94.7	248900
SPG7	104.5	90.4	86.7	607259
SPR	153.3	100.0	99.4	612716
SPTBN2	126.1	100.0	99.4	600224
STUB1	149.7	100.0	98.2	615768
SUMF1	91.4	98.3	92.5	272200
SUOX	179.3	100.0	100.0	272300
SYNE1	127.1	98.1	97.5	610743
TAF1	89.4	99.2	95.7	314250
TANGO2	127.0	100.0	99.3	616878
TBC1D20	114.7	94.3	93.9	615663
TBC1D23	95.2	98.7	94.5	617695
TBCD	136.5	95.5	93.3	617193
TDP1	105.1	99.9	99.4	607250
TDP2	166.5	99.6	99.5	616949
TECPR2	140.7	100.0	100.0	615031
TENM4	116.2	100.0	99.3	616736
TGM6	138.1	99.8	98.1	613908
TH	93.5	99.8	98.0	605407
THAP1	143.2	100.0	100.0	602629
TIMM8A	50.9	96.2	83.1	304700
TMEM106B	126.9	99.3	98.3	617964
TMEM240	144.4	100.0	100.0	607454
TMEM67	84.8	98.6	93.5	216360

TOE1	156.3	100.0	100.0	614969
TOR1A	127.6	91.3	91.3	128100
TPP1	130.4	100.0	100.0	609270
TREM2	128.3	100.0	99.3	221770
TREX1	288.9	100.0	100.0	225750
TRPM3	113.3	99.9	99.4	-
TSEN15	63.1	78.9	77.0	617026
TSEN2	108.2	99.9	99.2	612389
TSEN54	118.6	96.7	94.8	277470
TTBK2	119.7	99.9	98.3	604432
TTC19	73.2	83.8	74.1	615157
TTPA	108.0	96.2	89.6	277460
TUBA1A	76.0	99.5	93.2	611603
TUBB	116.1	96.8	93.7	615771
TUBB4A	84.5	96.0	95.6	128101;612438
TUBG1	178.0	100.0	100.0	615412
TWNK	173.4	100.0	99.9	609286
TYROBP	94.1	100.0	100.0	221770
UBAP1	122.3	98.1	91.8	618418
UBTF	116.6	99.9	99.1	617672
VAMP1	142.8	100.0	99.8	108600
VAR2	122.4	100.0	99.0	615917
VCP	108.5	100.0	99.1	167320
VLDLR	141.3	100.0	100.0	224050
VPS11	117.7	94.6	92.2	616683
VPS13A	79.9	98.4	94.6	200150
VPS13D	142.0	100.0	99.4	607317
VPS16	150.4	100.0	100.0	-
VPS37A	59.9	91.3	76.0	614898
VPS53	115.6	91.1	89.9	615851

VRK1	133.6	99.4	97.8	607596
WASHC5	139.3	99.8	99.7	603563
WDR26	80.7	89.2	84.2	617616
WDR45	71.6	98.2	92.0	300894
WDR73	177.2	100.0	100.0	251300
WDR81	189.2	100.0	100.0	610185
WWOX	116.3	100.0	99.9	614322
XK	76.5	99.7	97.6	300842
XPR1	133.7	99.9	99.8	616413
XRCC1	121.3	99.6	97.2	617633
ZC4H2	78.1	100.0	98.1	314580
ZFYVE26	103.1	99.7	97.8	270700
ZFYVE27	105.6	100.0	99.8	610244
ZNF592	147.5	100.0	99.8	606937

*Gene symbols used follow HGCN guidelines: Gray KA, Yates B, Seal RL, Wright MW, Bruford EA. Nucleic Acids Res. 2015 Jan 43(Database issue):D1079-85.*

*TWIST is the default chemistry for all WES samples. Agilent V5 was the default chemistry until Q3 2021.*

*Median Coverage describes the average number of reads seen across 50 exomes.*

*Covered 10x describes the percentage of a gene's coding sequence that is covered at least 10x.*

*Covered 20x describes the percentage of a gene's coding sequence that is covered at least 20x.*

*Genes with no value for coverage are non protein coding genes.*

*Non protein coding genes are covered, but as coverage statistics are based on protein coding regions, statistics could not be generated.*

*OMIM release used for OMIM disease identifiers and descriptions: September 1st, 2021.*