Gensymbol	*Genname*	Erkrankung(en)	OMIM	Gengröße (kb)
ABCD1	*ATP-BINDING CASSETTE, SUBFAMILY D, MEMBER 1*	Adrenoleukodystrophy, ALD; XLR	300100	2,2
AFG3L2	*ATPase FAMILY GENE 3-LIKE 2*	Ataxia, spastic, 5,ar	614487	2,4
		Ataxia, spastic, 28, ad	610246	
ALS2	*ALSIN*	Spastic paralysis, infantile onset ascending, ar	607225	5
AMPD2	*ADENOSINE MONOPHOSPHATE DEAMINASE 2*	SPG63, ar	615686	2,6
ANG	*ANGIOGENIN*	Amyotrophic lateral sclerosis 9, ad	611895	0,4
AP4B1	*ADAPTOR-RELATED PROTEIN COMPLEX 4, BETA-1*	SPG47, ar	614066	2,2
AP4E1	*ADAPTOR-RELATED PROTEIN COMPLEX 4, EPSILON-1*	SPG51, ar	613744	3,4
		Stuttering, familial persistent, 1; ad	184450	
AP4M1	*ADAPTOR-RELATED PROTEIN COMPLEX 4, MU-1*	SPG50, ar	612936	1,4
AP4S1	*ADAPTOR-RELATED PROTEIN COMPLEX 4, SIGMA-1*	SPG52, ar	614067	0,5
AP5Z1	*ADAPTOR-RELATED PROTEIN COMPLEX 5, ZETA-1*	SPG48, ar	613647	2,4
ARL6IP1	*ADP-RIBOSYLATION-LIKE FACTOR 6-INTERACTING PROTEIN 1*	? SPG61, ar	615685	0,6
ARSI	*ARYLSULFATASE I*	? SPG66, ar	610009	1,7
ATL1	***ATLASTIN GTPase 1***	**SPG3A, ad**	**182600**	**1,7**
		Neuropathy, hereditary sensory, type ID, ad	613708	
B4GALNT1	*BETA-1,4-N-ACETYLGALACTOSAMINYLTRANSFERASE 1*	SPG26, ar	609195	1,6

Gensymbol	*Genname*	Erkrankung(en)	OMIM	Gengröße (kb)
BSCL2	***SEIPIN***	**SPG17, Silver spastic paraplegia syndrome, ad**	**270685**	**1,2**
		Neuropathy, distal hereditary motor, type VA, ad	600794	
		Encephalopathy, progressive, with or without lipodystrophy	615924	
C12orf65	*CHROMOSOME 12 OPEN READING FRAME 65*	SPG55, ar	615035	0,5
C19ORF12	*CHROMOSOME 19 OPEN READING FRAME 12*	**? Spastic paraplegia 43, ar**	615043	0,4
		Neurodegeneration with brain iron accumulation 4, ar	614298	
C9orf72	*CHROMOSOME 9 OPEN READING FRAME 72*	ALS/FTD, ad	105550	1,4
CCT5	*CHAPERONIN CONTAINING T-COMPLEX POLYPEPTIDE 1, SUBUNIT 5*	Neuropathy, hereditary sensory, with spastic paraplegia	256840	1,6
CHMP2B	*CHMP FAMILY, MEMBER 2B*	Amyotrophic lateral sclerosis 17	614696	0,6
		Dementia, familial, nonspecific	600795	
CLCN2	*CHLORIDE CHANNEL 2*	Leukoencephalopathy with ataxia, ar	615651	2,7
		Epilepsy, idiopathic generalized, susceptibility to, 2, 8, 11, ad	607628	
CPT1C	*CARNITINE PALMITOYLTRANSFERASE IC*	? SPG73, ad	616282	2,4
CYP27A1	*CYTOCHROME P450, SUBFAMILY XXVIIA, POLYPEPTIDE 1*	Cerebrotendinous xanthomatosis, ar	213700	1,6
CYP2U1	*CYTOCHROME P450, FAMILY 2, SUBFAMILY U, POLYPEPTIDE 1*	SPG56, ar	615030	1,6
CYP7B1	***CYTOCHROME P450, FAMILY 7, SUBFAMILY B, POLYPEPTIDE 1***	**SPG5A, ar**	**270800**	**1,5**
		Bile acid synthesis defect, congenital, 3, ar	270800	

Gensymbol	*Genname*	Erkrankung(en)	OMIM	Gengröße (kb)
DARS2	*ASPARTYL-tRNA SYNTHETASE 2*	Leukoencephalopathy with brain stem and spinal cord involvement and lactate elevation, ar	611105	1,9
DCTN1	*DYNACTIN 1*	Neuropathy, distal hereditary motor, type VIIB, ad	607641	3,8
		Perry syndrome, ad	168605	
DDHD1	*DDHD DOMAIN-CONTAINING PROTEIN 1*	SPG28, ar	609340	2,7
DDHD2	*DDHD DOMAIN-CONTAINING PROTEIN 2*	SPG54, ar	615033	2,1
ENTPD1	*ECTONUCLEOSIDE TRIPHOSPHATE DIPHOSPHOHYDROLASE 1*	SPG64, ar	615683	1,6
ERLIN1	*ENDOPLASMIC RETICULUM LIPID RAFT-ASSOCIATED PROTEIN 1*	SPG62, ar	615681	1
ERLIN2	*ENDOPLASMIC RETICULUM LIPID RAFT-ASSOCIATED PROTEIN 2*	SPG18, ar	611225	1
FA2H	***FATTY ACID 2-HYDROXYLASE***	**SPG35,ar**	**612319**	**1,1**
FIG4	*FIG4, S. CEREVISIAE, HOMOLOG*	Amyotrophic lateral sclerosis 11	612577	2,7
		Charcot-Marie-Tooth disease, type 4J, ar	611228	
		Yunis-Varon syndrome	216340	
FLRT1	*FIBRONECTIN-LIKE DOMAIN-CONTAINING LEUCINE-RICH TRANSMEMBRANE PROTEIN 1*	SPG68, ar	604806	2
FUS	*FUSED IN SARCOMA*	Tremor, hereditary essential, 4, ad	614782	1,6
		Amyotrophic lateral sclerosis 6, a with or without frontotemporal dementia, ar	608030	
GAD1	*GLUTAMATE DECARBOXYLASE 1*	Cerebral palsy, spastic quadriplegic, 1, ar	603513	1,8
GALC	*GALACTOSYLCERAMIDASE*	Krabbe disease, ar	245200	2

Gensymbol	*Genname*	Erkrankung(en)	OMIM	Gengröße (kb)
GAN	*GIANT AXONAL NEUROPATHY 1*	Giant axonal neuropathy-1, ar	256850	1,8
GARS	*GLYCYL-tRNA SYNTHETASE*	Neuropathy, distal hereditary motor, type V; ad	600794	2,2
		Charcot-Marie-Tooth disease, type 2D, ad	601472	
GBA	*GLUCOSIDASE, BETA, ACID*	Gaucher disease, perinatal lethal, ar	608013	1,6
		Gaucher disease, Typ I, ar	230800	
		Parkinson disease, late-onset, susceptibility	168600	
GBA2	***GLUCOSIDASE, BETA, ACID 2***	**SPG46, ar**	**614409**	**2,8**
GFAP	*GLIAL FIBRILLARY ACIDIC PROTEIN*	Alexander disease, ad	203450	1,3
GJC2	***GAP JUNCTION PROTEIN, GAMMA-2***	**SPG44, ar**	**613206**	**1,3**
		Leukodystrophy, hypomyelinating, 2, ar	608804	
HEXA	*HEXOSAMINIDASE A*	Tay-Sachs disease, ar	272800	1,6
HSPB1	*HEAT-SHOCK 27-KD PROTEIN 1*	Charcot-Marie-Tooth disease, axonal, type 2F, ad	606595	0,6
		Neuropathy, distal hereditary motor, type IIB, ad	608634	
HSPB3	*HEAT-SHOCK 27-KD PROTEIN 3*	? Neuronopathy, distal hereditary motor, type IIC, ad	613376	0,5
HSPB8	*HEAT-SHOCK 22-KD PROTEIN 8*	Charcot-Marie-Tooth disease, axonal, type 2L, ad	608673	0,6
		Neuropathy, distal hereditary motor, type IIA, ad	158590	
HSPD1	***HEAT-SHOCK 60-KD PROTEIN 1***	**SPG13 , ad**	**605280**	**1,7**
		Leukodystrophy, hypomyelinating, 4, ar	612233	
IGHMBP2	*IMMUNOGLOBULIN MU-BINDING PROTEIN 2*	Charcot-Marie-Tooth disease, axonal, type 2S, ar	616155	3
		Neuronopathy, distal hereditary motor, type VI, ar	604320	
KANK1	*KN MOTIF- AND ANKYRIN REPEAT DOMAIN-CONTAINING PROTEIN 1*	Cerebral palsy, spastic quadriplegic, 2	612900	4,1
KIAA0196	***STRUMPELLIN***	**SPG8, ad**	**603563**	**3,5**
		Ritscher-Schinzel syndrome 1, ar	220210	

Gensymbol	*Genname*	Erkrankung(en)	OMIM	Gengröße (kb)
KIF1A	***KINESIN FAMILY MEMBER 1A***	**SPG30, ar**	**610357**	**5,1**
		Mental retardation, autosomal dominant 9, ad	614255	
		Neuropathy, hereditary sensory, type IIC, ar	614213	
KIF5A	***KINESIN FAMILY MEMBER 5A***	**SPG10, ad**	**604187**	**3,1**
KLC2	*KINESIN LIGHT CHAIN 2*	Spastic paraplegia, optic atrophy, and neuropathy, ar	609541	1,6
L1CAM	***L1 CELL ADHESION MOLECULE***	Hydrocephalus with Hirschsprung disease, XLR	307000	**3,8**
		CRASH syndrome, XLR	303350	
		SPG1* / MASA syndrome, XLR	**303350**	
MAG	*MYELIN-ASSOCIATED GLYCOPROTEIN*	SPG75, ar	616680	1,9
MARS	*METHIONYL-tRNA SYNTHETASE*	Charcot-Marie-Tooth disease, axonal, type 2U, ad	616280	2,7
		SPG70 ar		
MTPAP	*MITOCHONDRIAL POLY(A) POLYMERASE*	Ataxia, spastic, 4, ar	613672	1,7
NDUFV1	*NADH-UBIQUINONE OXIDOREDUCTASE FLAVOPROTEIN 1*	Mitochondrial complex I deficiency, ar, XLD, Mi	252010	1,4
NIPA1	***NONIMPRINTED GENE IN PRADER-WILLI SYNDROME/ANGELMAN SYNDROME CHROMOSOME REGION 1***	**SPG6, ad**	**600363**	**0,8**
NT5C2	*5-PRIME-NUCLEOTIDASE, CYTOSOLIC II*	SPG65, ar	613162	1,7
OPTN	*OPTINEURIN*	Amyotrophic lateral sclerosis 12	613435	1,7
		Glaucoma 1, open angle, E, ad	137760	
PANK2	*PANTOTHENATE KINASE 2*	Neurodegeneration with brain iron accumulation 1, ar	234200	0,8
PFN1	*PROFILIN 1*	Amyotrophic lateral sclerosis 18, ad, ar	614808	0,4

Gensymbol	*Genname*	Erkrankung(en)	OMIM	Gengröße (kb)
PGAP1	*POST-GPI ATTACHMENT TO PROTEINS 1*	SPG67?, ar		2,8
		Mental retardation, 42, ar	615802	
PLA2G6	*PHOSPHOLIPASE A2, GROUP VI*	Neurodegeneration with brain iron accumulation 2B, ar	610217	2,4
		Parkinson disease 14, ar	612953	
PLP1	***PROTEOLIPID PROTEIN 1***	**SPG2, XLR**	**312920**	**0,8**
		Pelizaeus-Merzbacher disease	312080	
PNPLA6	*PATATIN-LIKE PHOSPHOLIPASE DOMAIN-CONTAINING PROTEIN 6*	SPG39, ar	612020	4
		Boucher-Neuhauser syndrome, ar	215470	
		Oliver-McFarlane syndrome, ar	275400	
PQBP1	*POLYGLUTAMINE-BINDING PROTEIN 1*	Renpenning syndrome	309500	0,8
PSEN1	*PRESENILIN 1*	Alzheimer disease, type 3, with spastic paraparesis and apraxia, ad	607822	1,4
		Dementia, frontotemporal, ad	600274	
RAB3GAP2	*RAB3 GTPase-ACTIVATING PROTEIN, NONCATALYTIC SUBUNIT*	SPG69 ? ar		4,2
		Martsolf syndrome, ar	212720	
		Warburg micro syndrome 2	614225	
REEP1	***RECEPTOR EXPRESSION-ENHANCING PROTEIN 1***	**SPG31, ad**	**610250**	**0,6**
		?Neuronopathy, distal hereditary motor, type V	614751	
RTN2	***RETICULON 2***	**SPG12, ad**	**604805**	**1,6**
SACS	*SACSIN*	SPAX6, Spastic ataxia, Charlevoix-Saguenay type, ar	270550	
SCO2	*SCO2 CYTOCHROME c OXIDASE ASSEMBLY PROTEIN*	Cardioencephalomyopathy, fatal infantile, due to cytochrome c oxidase deficiency 1, ar	604377	0,8
SLC16A2	*SOLUTE CARRIER FAMILY 16 (MONOCAR-BOXYLIC ACID TRANSPORTER), MEMBER 2*	SPG22, XLD		1,6
		Allan-Herndon-Dudley syndrome, XLD	300523	

Gensymbol	*Genname*	Erkrankung(en)	OMIM	Gengröße (kb)
SLC33A1	***SOLUTE CARRIER FAMILY 33 (ACETYL-CoA TRANSPORTER), MEMBER 1***	**SPG42, ad**	**612539**	**1,7**
		Congenital cataracts, hearing loss, and neurodegeneration	614482	
SOD1	*SUPEROXIDE DISMUTASE 1*	Amyotrophic lateral sclerosis 1, ar,ad	105400	
SPAST	*SPASTIN*	**SPG4, ad**	182601	1,9
SPG11	***SPATACSIN***	**SPG11, ar**	**604360**	**7,3**
		Amyotrophic lateral sclerosis 5, juvenile	602099	
		Charcot-Marie-Tooth disease, axonal, type 2X	616668	
SPG20	***SPARTIN***	**SPG20, ar**		**2**
		Troyer syndrome, ar	275900	
SPG21	***ACP33***	**SPG21, ar / Mast syndrome**	**248900**	**0,9**
SPG7	***PARAPLEGIN***	**SPG7, ar**	**607259**	**2,4**
SPR	*SEPIAPTERIN REDUCTASE*	Dystonia, dopa-responsive, due to sepiapterin reductase deficiency, ar ad?	612716	0,8
TECPR2	*TECTONIN BETA-PROPELLER REPEAT-CONTAINING PROTEIN 2*	SPG49, ar	615031	4,2
TFG	*TRK-FUSED GENE*	SPG57, ar	615658	1,2
		Hereditary motor and sensory neuropathy, Okinawa type, ad	604484	
TH	*TYROSINE HYDROXYLASE*	Segawa syndrome, ar	605407	1,6
TRPV4	*TRANSIENT RECEPTOR POTENTIAL CATION CHANNEL, SUBFAMILY V, MEMBER 4*	**Spinal muscular atrophy, distal, congenital nonprogressive, ad**	600175	2,6
		Hereditary motor and sensory neuropathy, type Iic, ad	606071	
		Scapuloperoneal spinal muscular atrophy	181405	
TUBB4A	*TUBULIN, BETA-4A*	Leukodystrophy, hypomyelinating, 6, ad	612438	1,3

Gensymbol	*Genname*	Erkrankung(en)	OMIM	Gengröße (kb)
UBA1	*UBIQUITIN-LIKE MODIFIER-ACTIVATING ENZYME 1*	Spinal muscular atrophy, X-linked 2, infantile	301830	3,2
UBQLN2	*UBIQUILIN 2*	Amyotrophic lateral sclerosis 15, with or without frontotemporal dementia, XLD	300857	1,9
USP8	*UBIQUITIN-SPECIFIC PROTEASE 8*	SPG59, ar	603158	3,4
VCP	*VALOSIN-CONTAINING PROTEIN*	Amyotrophic lateral sclerosis 14, with or without frontotemporal dementia	613954	2,4
		Charcot-Marie-Tooth disease, type 2Y, ad	616687	
		Inclusion body myopathy with early-onset Paget, ad	167320	
VPS37A	*VACUOLAR PROTEIN SORTING 37, YEAST A*	SPG53, ar	614898	1,2
VRK1	*VACCINIA-RELATED KINASE 1*	Pontocerebellar hypoplasia type 1A, ar	607596	1,2
WDR48	*WD REPEAT-CONTAINING PROTEIN 48*	SPG60, ar	612167	2
ZFR	*ZINC FINGER RNA-BINDING PROTEIN*	SPG71,ar	615635	3,2
ZFYVE26	***ZINC FINGER FYVE DOMAIN-CONTAINING PROTEIN 2***	**SPG15, ar**	**270700**	**7,6**
ZFYVE27	***ZINC FINGER FYVE DOMAIN-CONTAINING PROTEIN 27***	**SPG33, ad**	**610244**	**1,2**

Fett: in Standard-Panels enthalten; ad: autosomal dominant; ar autosomal rezessiv; Lachsfarben unterlegt: sehr seltene SPG-Formen - nur auf Anfrage