Table S2. Information about proteins used in this analysis.

Protein	Localisation	Additional information	References
ALMS1	Centrosome, basal body	Mutated in Alström Syndrome	(Hearn et al., 2005)
Asterless	Centrosome	Human centrosome proteome; required for centriole duplication in *Drosophila*	(Andersen et al., 2003; Varmark et al., 2007; Blachon et al., 2008; Dobbelaere et al., 2008)
BBS1		Mutated in Bardet-Biedl Syndrome; component of the biochemical complex BBSome which is important for ciliogenesis; mouse model with $BBS1^{M309R/M309R}$ (most common mutation in humans) has elongated cilia with swollen distal ends	(Davis et al., 2007; Nachury et al., 2007)
BBS2	Base of cilia	Mutated in Bardet-Biedl Syndrome; component of the biochemical complex BBSome which is important for ciliogenesis; not required for global ciliogenesis but *BBS2-/-* mice have cilia with swollen distal ends	(Nachury et al., 2007; Shah et al., 2008)
BBS3		Mutated in Bardet-Biedl Syndrome; ARF-like GTPase; in *C. elegans*: expressed in ciliated neurons; undergoes IFT	(Fan et al., 2004)
BBS4	Base of cilia	Mutated in Bardet-Biedl Syndrome; component of the biochemical complex BBSome which is important for ciliogenesis; *BBS4-/-* mouse model shows BBS4 is not required for global but spermatozoa ciliogenesis; BBS-4 interacts with PCM1	(Mykytyn et al., 2004; Nachury et al., 2007)
BBS5		Mutated in Bardet-Biedl Syndrome; component of the biochemical complex BBSome which is important for ciliogenesis; BBS5 has 2 PH domains which interact with Phosphatidylinositol 3-phosphate	(Nachury et al., 2007)
BBS6	Base of cilia (ring-shape), midbody	Mutated in Bardet-Biedl Syndrome; Type II Chaperonin-like protein	(Kim et al., 2005; Stoetzel et al., 2007)
BBS7	Base of cilia and cilium	Mutated in Bardet-Biedl Syndrome; component of the biochemical complex BBSome which is important for ciliogenesis; In *C. elegans*: BBS7 and BBS8 undergo IFT and are involved in stabilising IFT particle	(Blacque et al., 2004; Ou et al., 2005; Nachury et al., 2007)
BBS8	Base of cilia and cilium	Mutated in Bardet-Biedl Syndrome; component of the biochemical complex BBSome which is important for ciliogenesis; In *C. elegans*: BBS7 and BBS8 undergo IFT and are involved in stabilising IFT particle	(Blacque et al., 2004; Ou et al., 2005; Nachury et al., 2007)

BBS9		Mutated in Bardet-Biedl Syndrome; component of the biochemical complex BBSome which is important for ciliogenesis; BBS9 interacts with BBS8, 5, 4, 2 and 1	(Nachury et al., 2007)
BBS10	Base of cilia	Mutated in Bardet-Biedl Syndrome; involved in transient ciliogenesis in adipocytes; Type II Chaperonin-like protein	(Stoetzel et al., 2007; Marion et al., 2009)
BBS11		Mutated in Bardet-Biedl Syndrome; E3 ubiquitin ligase	(Chiang et al., 2006)
BBS12	Base of cilia	Mutated in Bardet-Biedl Syndrome; involved in transient ciliogenesis in adipocytes; Type II Chaperonin-like protein	(Stoetzel et al., 2007; Marion et al., 2009)
BBS13 /MKS1	Base of cilia	Mutated in Bardet-Biedl Syndrome and Meckel-Gruber Syndrome; depletion results in block of centriole migration to apical membrane; interacts with MKS3	(Dawe et al., 2007)
BBS14 /MKS4	Centrosome, base of cilia/centriolar satellites	Mutated in Bardet-Biedl Syndrome, Meckel-Gruber Syndrome, Joubert Syndrome, and Nephronophthisis/Senoir-Loken Syndrome; positive regulator of ciliogenesis; CEP290 depletion prevents ciliogenesis; interacts with RPGR	(Chang et al., 2006; Sayer et al., 2006; McEwen et al., 2007; Kim, J. et al., 2008; Tsang et al., 2008)
CAP350	Centrosome	Human centrosome proteome; MT anchoring centrosome with FOP and EB1 and Ninein, p150glued; FOP seems required for CAP350 localisation to the mitotic spindle	(Andersen et al., 2003; Yan et al., 2006)
Centrin	Centriole (distal end)	Required for centriole duplication in humans, Chlamydomonas, Tetrahymena; often multiple paralogues per species involved into many cellular processes	(Salisbury et al., 2002; Koblenz et al., 2003; Stemm-Wolf et al., 2005)
Centriolin	Centriole (subdistal appendages), midbody	Depletion and overexpression cause cytokinesis failure; anchoring of Exocyst and SNARE complexes at the midbody, required for secretory-vesicle-mediated abscission	(Gromley et al., 2003; Gromley et al., 2005)
CEP55	Centrosome, midbody	Human centrosome proteome; recruitment of ESCRT-III/ALIX to the midbody	(Andersen et al., 2003; Morita et al., 2007; Carlton et al., 2008)
CEP68	Centrosome	Human centrosome proteome; centrosome cohesion	(Andersen et al., 2003; Graser et al., 2007a)
CEP76	Centriole (mature and pro-centriole)	Human centrosome proteome; in *T. brucei* flagella proteome; interacts with CP110; depletion of CEP76 results in accumulation of centriolar intermediates (in some human cell lines); overexpression does not affects normal centriole duplication	(Andersen et al., 2003; Broadhead et al., 2006; Tsang et al., 2009)

CEP97	Centrosome	Human centrosome proteome; CP110 and CEP97 suppress cilia assembly; CEP97 recruits CP110 to the centrosome, and vice versa	(Andersen et al., 2003; Spektor et al., 2007)
CEP135 (BLD10)	Centriole (cartwheel)	Human centrosome proteome; *Chlamydomonas CEP135/BLD10* null mutant has no basal bodies but is viable; expression of truncated CEP135/BLD10 results in shorter cartwheel spokes (reduced centriole diameter with less MT triplets); depletion of CEP135/BLD10 in Drosophila induces shorter basal bodies leading to immotile sperm but not disturbed sensory function; CEP135/BLD10 interacts with C-NAP1 which is involved in linking the disengaged centrioles until centrosome splitting	(Andersen et al., 2003; Matsuura et al., 2004; Hiraki et al., 2007; Kim, K. et al., 2008; Mottier-Pavie and Megraw, 2009)
CEP164	Centriole (mature, distal appendages, ring-shape)	Human centrosome proteome; essential for primary cilia formation; not essential for centriole duplication in human cells	(Otto et al., 2002; Graser et al., 2007b)
CEP192/SPD-2	Centrosome	Human centrosome proteome; recruitment of PCM to the centriole; in *C. elegans* embryos: essential for centriole duplication; in *Drosophila*: not required for somatic centriole duplication, indispensible for centriole duplication in the egg after fertilisation; centrosomal accumulation partially dependent on Aurora-A and Dynein, and co-dependent on SPD-5; SPD-2 required for ZYG-1 recruitment to the centrosome; overexpression results in multiple extra-centrosomal foci of gamma-tubulin and pericentrin which supports an early role of CEP192 in centrosome assembly	(Otto et al., 2002; Delattre et al., 2006; Pelletier et al., 2006; Dix and Raff, 2007; Gomez-Ferreria et al., 2007; Kleylein-Sohn et al., 2007; Zhu et al., 2008)
CP110	Centriole (distal end), not at basal body	negative regulator of cilia formation (together with CEP97); in human cells: essential for centrosome duplication; substrate for Cdk2; abundance is cell-cycle regulated (has protein degradation motif); depletion results in centriole elongation (no homogenous extension of the centriole, but elongated centrioles have frayed ends)	(Chen et al., 2002; Spektor et al., 2007; Tsang et al., 2008; Schmidt et al., 2009)
DIP13	Centriole, basal body, axoneme	In *Chlamydomonas*: depletion results in growth reduction, multi-nucleated, multi-flagellated cells	(Pfannenschmid et al., 2003)
EB1	MT, centrosome/ spindle	Associated with MT plus ends (growing ends); tubulin sheet closure (zipper)	(Sandblad et al., 2006; Vitre et al., 2008)
FOP	Centrosome	Human centrosome proteome; MT anchoring at centrosome with CAP350 and EB1; FOP interacts with CAP350 and this interaction is required for FOP's centrosomal localisation; interacts with EB1, localisation to plus-end due to this interaction	(Andersen et al., 2003; Yan et al., 2006)
MKS3	Primary cilium and plasma membrane	Mutated in Meckel-Gruber Syndrome; interacts with MKS1; Depletion results in block of centriole migration to apical membrane	(Dawe et al., 2007)
MKS5	Centrosome, basal body, cilium	Mutated in Meckel-Gruber Syndrome and Joubert Syndrome; interact with NPHP4	(Arts et al., 2007; Delous et al., 2007)

MKS6	Centrosome, base of cilium	Mutated in Meckel-Gruber Syndrome and Joubert Syndrome; interacts with CEP290	(Gorden et al., 2008)
C-NAP1	Centrosome	Human centrosome proteome; involved in centriole coupling/linkage after disengagement	(Mayor et al., 2002; Andersen et al., 2003; Kim, K. et al., 2008)
Ninein	Centrosome, around mother centriole appendages	Centrosomal MT anchoring; non-nucleating MT minus-end stabilising; role in organising centrosomal proteins; interacts with γ-tubulin	(Mogensen et al., 2000; Ou et al., 2002; Delgehyr et al., 2005)
NPHP1	Base of cilia	Mutated in Nephronopthisis/Senoir-Loken Syndrome; interacts with signalling molecules involved in cell-adhesion and actin cytoskeleton organisation	(Otto et al., 2002; Fliegauf et al., 2006)
NPHP3		Mutated in Nephronopthisis/Senoir-Loken Syndrome	(Olbrich et al., 2003)
NPHP4	Primary cilium, base of cilium	Mutated in Nephronopthisis/Senoir-Loken Syndrome	(Otto et al., 2002)
NPHP5	Primary cilium connecting cilia of photoreceptors, primary cilia of renal epithelial cells	Mutated in Nephronopthisis/Senoir-Loken Syndrome; interacts with RPGR	(Otto et al., 2005)
PCM1	Pericentriolar satellites, site of ciliogenesis	Depletion results in reduced levels of centrin, pericentrin and ninein at centrosome, and disrupted centrosomal MT organisation; involved in MT- and dynactin-dependent recruitment of proteins to the centrosome; interacts with BBS4	(Kubo et al., 1999; Dammermann and Merdes, 2002; Nachury et al., 2007)
PLK		Polo-like kinases; cell-cycle regulated kinase family	(Archambault and Glover, 2009)
PLK4	Centrosome	Member of the polo-like kinase family; required for centriole duplication in *Drosophila* and humans	(Bettencourt-Dias et al., 2005; Habedanck et al., 2005; Kleylein-Sohn et al., 2007)
POC1	Centriole (proximal end), fiber systems	Identified in *Chlamydomonas* centriole proteome and *Tetrahymena* basal body proteome; depletion in *Drosophila* is lethal; depletion in *Chlamydomonas* impairs centriole duplication and overexpression results in elongated centrioles	(Keller et al., 2005; Dietzl et al., 2007; Kilburn et al., 2007; Keller et al., 2009)
POC5	Centriole (distal end)	Identified in *Chlamydomonas* centriole proteome; centrin-interacting protein; depletion results in growth defect	(Keller et al., 2005; Azimzadeh et al., 2009)

Rootletin	Centrosome, rootlets	Interacts with C-NAP1	(Yang et al., 2006)
SAS-4	Centriole (mature and pro-centriole)	Essential for centriole duplication in *C. elegans*, *Drosophila*, and humans; involved in attachment of microtubules to the central tube/centriole; MT-interacting domain; quantity of SAS-4 affects the length of the centriole (or at least its MTs); cell-cycle dependent degradation mediated by APC/Cdh1	(Kirkham et al., 2003; Leidel and Gonczy, 2003; Hung et al., 2004; Basto et al., 2006; Pelletier et al., 2006; Kleylein-Sohn et al., 2007; Dammermann et al., 2008; Hsu et al., 2008; Kohlmaier et al., 2009; Schmidt et al., 2009; Tang et al., 2009)
SAS-6	Centriole (cartwheel)	Essential for centriole duplication in *C. elegans*, *Drosophila*, humans, *Chlamydomonas*, zebrafish, Tetrahymena; acts early during centriole biogenesis, either as component (hub) of the cartwheel or another proximal structure in C. elegans; cell-cycle dependent degradation mediated by APC/Cdh1; upstream of SAS-4 in centriolar pathway	(Dammermann et al., 2004; Leidel et al., 2005; Delattre et al., 2006; Pelletier et al., 2006; Kleylein-Sohn et al., 2007; Nakazawa et al., 2007; Peel et al., 2007; Rodrigues-Martins et al., 2007; Strnad et al., 2007; Vladar and Stearns, 2007; Yabe et al., 2007; Culver et al., 2009)
SZY-20	Centrosome	Suppressor of *C. elegans zyg-1* phenotype; negative regulator of centriole duplication	(Song et al., 2008)
VFL1	Basal body (mature and pro-basal body)	*Chlamydomonas* mutant: variable flagella length; rotational asymmetric localisation of VFL1 mostly to triplet 1 (or 2) which is the site of pro-basal body assembly	(Adams et al., 1985; Silflow et al., 2001)
WDR16	Basal body (mature, pro-basal), axoneme	Identified in *T. brucei* flagella proteome	(Broadhead et al., 2006), H. Farr K. Gull personal communication
XMAP215	Microtubles (preferentially plus ends), centrosome	Control of MT dynamics; MT polymerase	(Popov et al., 2001; Brouhard et al., 2008)
ZYG-1	Centrosome	Kinase, required for daughter centriole formation in C. elegans; requires SPD-2 for its centrosomal recruitment; upstream of SAS-6/SAS-5 and SAS-4 in the centriolar pathway	(O'Connell et al., 2001; Delattre et al., 2006; Pelletier et al., 2006)

γ-tubulin	Centrosome, MT nucleation sites	MT nucleation	(Oakley and Oakley, 1989; Raynaud-Messina and Merdes, 2007)
δ-tubulin	Centrosome (between centrioles)	In *Chlamydomonas*: uni3-1 strain has centrioles with mainly MT doublets, but also MT triplets, misplaced fiber systems; in human:, δ-tubulin localises to the centrosome, presumably between the centrioles, interacts with γ-tubulin; in *T. brucei*: depletion mainly basal bodies with MT duplets	(Dutcher and Trabuco, 1998; Chang and Stearns, 2000; Smrzka et al., 2000; O'Toole et al., 2003; Kato et al., 2004; Gadelha et al., 2006)
ε-tubulin	Centriole (distal appendages)	In *Chlamydomonas*: bld-2 strain has centrioles with MT singlets, null alleles for ε-tubulin not viable; in *Paramecium*: depletion results in basal bodies with aberrant MT numbers; in human: stronger association with the older centriole, localisation to the distal appendages (EM), required for centriole duplication	(Goodenough and StClair, 1975; Chang and Stearns, 2000; Dupuis-Williams et al., 2002; Dutcher et al., 2002; Chang et al., 2003)

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