

The primary cilium acts as a sensory organelle that transfers information from the environment to the cell interior. Once thought of as an evolutionary artefact, this organelle is now understood to be crucial for regulating important cellular processes, including the cell cycle, cytoskeletal organization, intraflagellar transport and signaling pathways such as hedgehog, notch and canonical and non-canonical Wnt/planar cell polarity (PCP) pathways. Proteintech has over 70 antibodies recognizing cilia-related proteins in its catalog. Here these have been presented in relation to the ciliary structure they localize to, along with details of corresponding antibodies; we have also provided a diagram of cilium structure (overleaf) complete with examples of immunofluorescence staining of ciliary components by a selection of Proteintech antibodies.

	Antibody Name	Catalog no.	Applications	Type	
IFT B Complex	IFT20	13615-1-AP	ELISA, WB, IF, IP	PAb	6
	IFT27/RABL4	15017-1-AP	ELISA, WB, IHC, IF	PAb	
	IFT52	17534-1-AP	ELISA, WB, IF, IP	PAb	3
	IFT57	11083-1-AP	ELISA, WB, IHC, IP	PAb	
	IFT80	25230-1-AP	ELISA, WB	PAb	
	IFT81	10604-2-AP	ELISA, WB, IHC	PAb	
	IFT81	11744-1-AP	ELISA, WB, IHC, IF, IP	PAb	
	IFT88	13967-1-AP	ELISA, WB, IHC, IF, IP	PAb	43

	Antibody Name	Catalog no.	Applications	Type	
IFT A Complex	IFT43	24338-1-AP	ELISA, IHC	PAb	
	IFT122/WDR10	19304-1-AP	ELISA, WB, IHC	PAb	
	IFT140	17460-1-AP	ELISA, WB, IF	PAb	3
	IFT144/WDR19	13647-1-AP	ELISA, WB, IHC, IF	PAb	

	Antibody Name	Catalog no.	Applications	Type	
Basal Body	BBS1	21118-1-AP	ELISA, WB, IF	PAb	
	BBS2	11188-2-AP	ELISA, WB, IF, IP	PAb	7
	BBS3/ARL6	12676-1-AP	ELISA, WB, IHC, IF, IP	PAb	
	BBS4	12766-1-AP	ELISA, WB, IHC, IF	PAb	
	BBS5	14569-1-AP	ELISA, WB, IHC, IF	PAb	
	BBS6/MKKS	13078-1-AP	ELISA, WB, IF	PAb	
	BBS7	18961-1-AP	ELISA, WB, IHC	PAb	3
	BBS8/TTC8	12505-1-AP	ELISA, WB, IP	PAb	
	BBS9	14460-1-AP	ELISA, WB, IHC, IF	PAb	
	BBS10	12421-2-AP	ELISA, WB, IF	PAb	
	MKS1/BBS13	16206-1-AP	ELISA, WB, IHC, IF, IP	PAb	4
SDCCAG8/BBS16/NPHP10	13471-1-AP	ELISA, WB, IF	PAb	3	
TRIM32/BBS11	10326-1-AP	ELISA, WB, IHC, IF	PAb		

	Antibody Name	Catalog no.	Applications	Type	
NPHP proteins	ATXN10	15693-1-AP	ELISA, WB, IHC, IF	PAb	
	NPHP2/Inversin (INVS)	10585-1-AP	ELISA, WB, IHC, IF	PAb	
	NPHP3/MKS7	22026-1-AP	ELISA, WB, IHC, IF	PAb	
	NPHP4/Nephrocystin 4	13812-1-AP	ELISA, WB, IHC, IF	PAb	
	NPHP5/IQCB1	15747-1-AP	ELISA, IF	PAb	
	NPHP6/Cep290	22490-1-AP	ELISA, WB, IHC, IP	PAb	
	NPHP8/RPGRIP1L	55160-1-AP	ELISA, WB, IHC	PAb	
	NPHP10/SDCCAG8/BBS16	13471-1-AP	ELISA, WB, IF	PAb	3

	Antibody Name	Catalog no.	Applications	Type	
MKS proteins	MKS1	16206-1-AP	ELISA, WB, IHC, IF, IP	PAb	4
	MKS3/TMEM67	13975-1-AP	ELISA, IF, IHC	PAb	3
	MKS4/CEP290	22490-1-AP	ELISA, WB, IHC, IP	PAb	
	MKS5/RPGRIP1L/NPHP10	55160-1-AP	ELISA, WB, IHC	PAb	
	MKS6/CC2D2A	22293-1-AP	ELISA, WB, IHC, IF	PAb	

	Antibody Name	Catalog no.	Applications	Type	
Other transition zone proteins	CC2D2A/MKS6	22293-1-AP	ELISA, WB, IHC, IF	PAb	
	CEP290/NPHP6	22490-1-AP	ELISA, WB, IHC, IP	PAb	
	MKS1/BBS13	16206-1-AP	ELISA, WB, IHC, IF, IP	PAb	4
	TCTN1	15004-1-AP	ELISA, WB, IHC, IF	PAb	4
	TCTN2/MKS8	17053-1-AP	ELISA, IF, IP	PAb	3
	TCTN3	16085-1-AP	ELISA, WB, IHC, IF, IP	PAb	
TMEM67/MKS3	13975-1-AP	ELISA, IF, IHC	PAb	3	

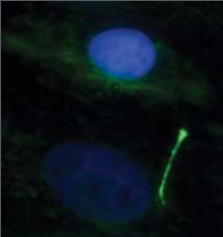
	Antibody Name	Catalog no.	Applications	Type	
Centrosome	CENJP	11517-1-AP	ELISA, WB, IF	PAb	5
	Centrin 1	12794-1-AP	ELISA, WB, IF	PAb	3
	Centrin 2	15877-1-AP	ELISA, WB, IHC	PAb	
	Centriolin/CEP110	25235-1-AP	ELISA, WB	PAb	
	CEP57	24957-1-AP	ELISA, WB	PAb	
	CEP97	22050-1-AP	ELISA, WB, IHC, IF	PAb	
	CEP152	21815-1-AP	ELISA, IP	PAb	
	CEP164	22227-1-AP	ELISA, IF, IP	PAb	
	EB1	17717-1-AP	ELISA, WB, IHC	PAb	
	NUP85/Pericentrin 1	19370-1-AP	ELISA, WB, IHC, IF	PAb	
PCM-1	19856-1-AP	ELISA, WB, IP	PAb		

	Antibody Name	Catalog no.	Applications	Type	
Other cilia-related proteins	CP110	12780-1-AP	ELISA, WB, IHC, IF, IP	PAb	9
	CSPP1	11931-1-AP	ELISA, WB, IF	PAb	4
	DISC1	15500-1-AP	ELISA, WB, IHC	PAb	
	KIF2A	13105-1-AP	ELISA, WB, IHC	PAb	
	KIF3A	13930-1-AP	ELISA, WB, IHC, IP	PAb	
	NDE1	10233-1-AP	ELISA, WB, IHC, IF, IP	PAb	4
	NUP85/Pericentrin 1	19370-1-AP	ELISA, WB, IHC, IF	PAb	
	ODF2	12058-1-AP	ELISA, WB, IHC, IP	PAb	3
	RPGR/RP3	16891-1-AP	ELISA, WB, IHC, IF	PAb	
	septin 2	11397-1-AP	ELISA, WB, IHC, IF, IP, FC	PAb	
septin 2	60075-1-Ig	ELISA, WB, IHC, IF	MAb		

	Antibody Name	Catalog no.	Applications	Type	
General cilia marker proteins	AC3	19492-1-AP	ELISA, WB, IHC, IF	PAb	
	ARL13B	17711-1-AP	ELISA, WB, IHC, IF, IP	PAb	30

	Antibody Name	Catalog no.	Applications	Type	
Joubert syndrome-related proteins	AHI1	22045-1-AP	ELISA, WB	PAb	
	CEP290	22490-1-AP	ELISA, WB, IHC, IP	PAb	
	TMEM67	13975-1-AP	ELISA, IF, IHC	PAb	3

**General cilia markers**

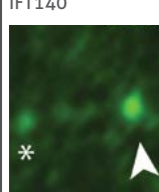
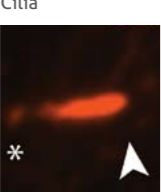
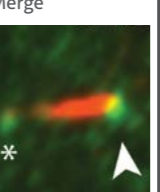


Immunofluorescence staining of MDCK cells with anti-acetylated tubulin (TUBA1Aace-40Lys) monoclonal antibody (66200-1-1g; 1:50), detected with Alexa Fluor 488-conjugated AffiniPure Goat Anti-Mouse secondary antibody (green). Acetylated tubulin locates exclusively to cilia, making this antibody a great immunological tool for control staining of cilia.

**Dynein**

**Plasma Membrane**

**IFT Complexes**

IFT140	Cilia	Merge
		

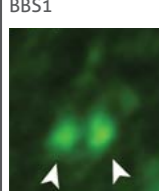

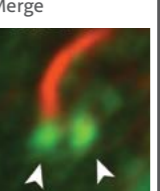
Anti-IFT140 (17460-1-AP, 1:50) staining reveals IFT140 enrichment at the base (arrowhead) and tip (asterix) of cilia in serum-starved hTERT-RPE1 cells (PFA fixed). Figure provided by Dr. Moshe Kim.

**Microtubules**

**Kinesin**

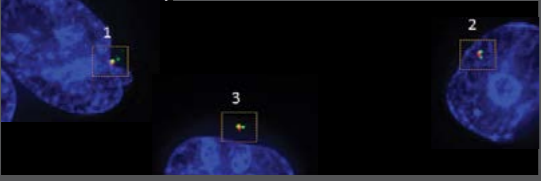
**Cargo**

**Basal Body**

BBS1	Cilia	Merge
		

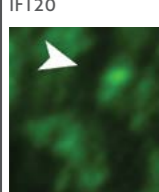
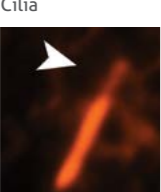
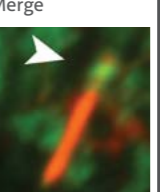
Anti-BBS1 (21118-1-AP, 1:50) stains the base of the cilia in serum starved hTERT-RPE1 cells (MeOH fixed). Figure provided by Dr. Moshe Kim.

**Centriole**

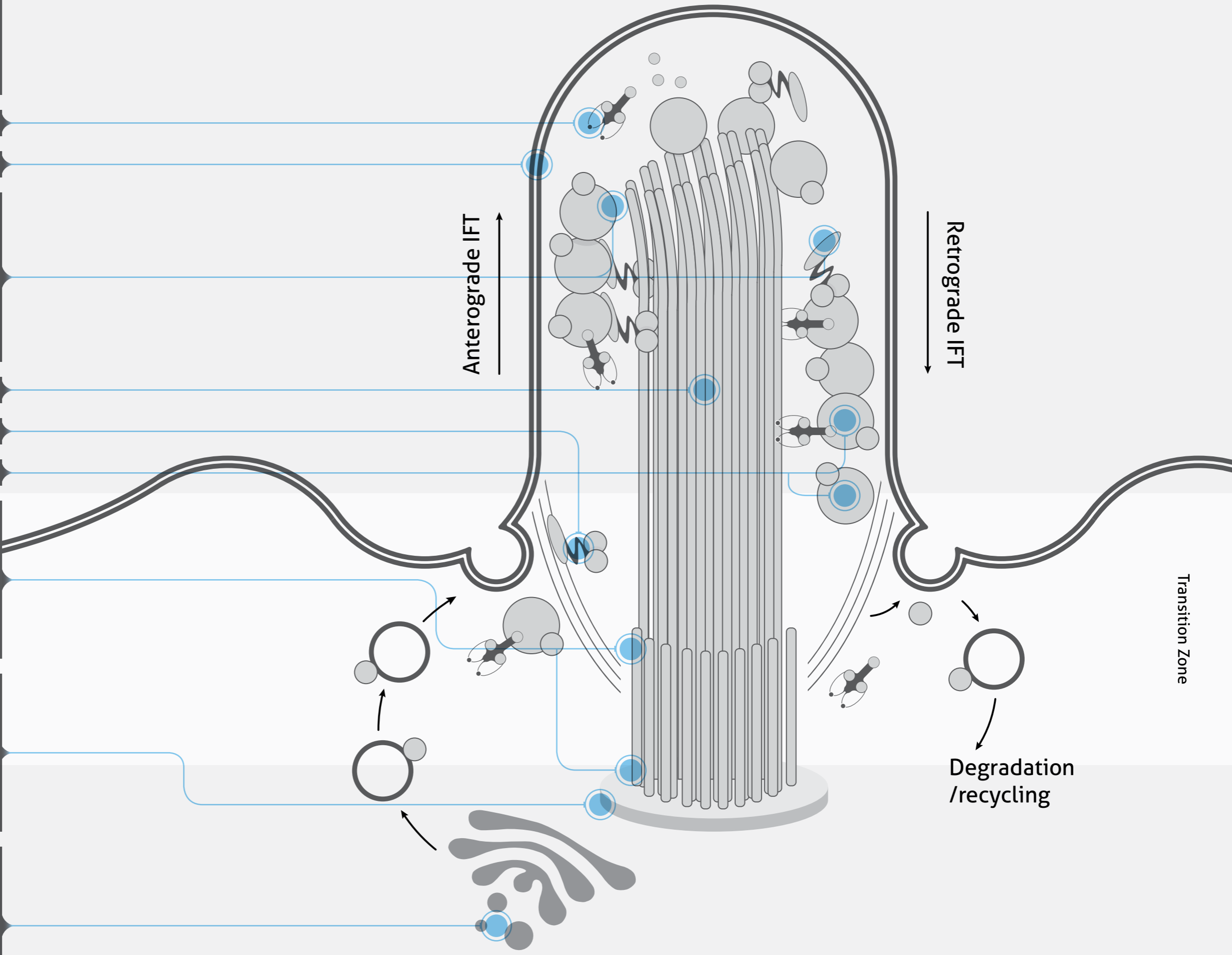


Immunofluorescence results of CEP164 (22227-1-AP, 1:1000) staining in HeLa cells (1.5% formaldehyde, 10 min RT) by the Laboratory of Protein Dynamics and Signaling; Center for Cancer Research, National Cancer Institute.

**Golgi**

IFT20	Cilia	Merge
		

Anti-IFT20 (13615-1-AP, 1:50) stains golgi-like structures in serum-starved hTERT-RPE1 cells (MeOH fixed). Figure provided by Dr. Moshe Kim.



Transition Zone

Degradation /recycling