

## When cilia go bad: cilia defects and ciliopathies

Manfred Fliegauf, Thomas Benzing & Heymut Omran

*Nature Reviews Molecular Cell Biology* 8, 880–893 (2007); doi:10.1038/nrm2278

The authors would like to add the following text (in italics) and references (see references <sup>\*</sup>, <sup>†</sup> and <sup>§</sup> below) to the article, and include a change to Figure 2a.

On page 883 of the article, in the first paragraph following the main heading 'Disorders of development and growth', the text and references should read as follows:

*'Numerous cilia-related diseases have been described that are associated with developmental defects affecting the central nervous system, the skeleton or other organ systems. Several signalling pathways have been implicated in ciliary function. In Chlamydomonas, it has been shown that the IFT machinery is directly involved in cilium-generated signalling<sup>\*,†</sup>'*

On page 890 of the article, in the last paragraph of the section entitled 'Oncogenesis' under the subheading 'Cystoproteins involved in cell-cycle regulation', an additional reference should have been included as follows:

*'These polycystin studies indicate that cilia-related proteins could be good tumour-suppressor candidates. Biallelic inactivation of the VHL (von Hippel Lindau) tumour-suppressor gene is associated with most sporadic renal clear cell carcinomas; here, tumorigenic transformation is preceded by the formation of renal cysts, which, in turn, are commonly caused by renal monocilia dysfunction. The VHL protein localizes to the axonemes of renal monocilia and controls ciliogenesis in kidney cells<sup>§118–120,§,....</sup>'*

<sup>\*</sup> Wang, Q., Pan, J. & Snell, W. J. Intraflagellar transport particles participate directly in cilium-generated signaling in *Chlamydomonas*. *Cell* 125, 549–562 (2006).

<sup>†</sup> Pan, J. & Snell, W. J. Kinesin-II is required for flagellar sensory transduction during fertilization in *Chlamydomonas*. *Mol. Biol. Cell* 13, 1417–1426 (2002).

<sup>§</sup> Thoma, C.R. *et al.* pVHL and GSK3 $\beta$  are components of a primary cilium-maintenance signalling network. *Nature Cell Biol.* 9, 588–595 (2007).

In Figure 2a, the hearts and lungs depicted for 'left isomerism (polysplenia)' and 'right isomerism (asplenia)' have been changed (see below).

### a Laterality defects

