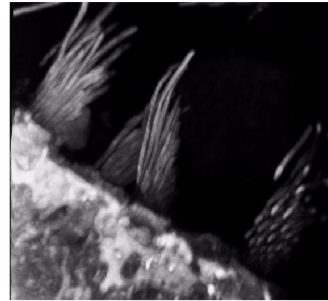


## SUPPLEMENTARY MOVIES

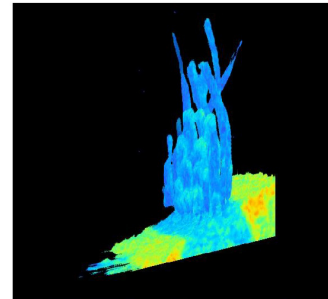
### Supplementary Movie 1

Three-dimensional image for mass 26 (total protein) for four hair bundles of an adult mouse utricle. The imaging beam progressively etched the surface by 2-3  $\mu\text{m}$ , continuously acquiring images that were reconstructed into a volume image. (MOV file, 16Mb)



### Supplementary Movie 2

Three dimensional image for one hair bundle of a mouse utricle showing  $^{15}\text{N}$  incorporation, from a neonatal mouse fed  $^{15}\text{N}$  for four days. The HSI scale is 0-100% incorporation in the first movie segment; then 0-45% in the second. The stereocilia have lower incorporation than do the cell bodies, but the tips of stereocilia can be seen to have higher incorporation than the stereocilia shafts. (MOV file, 21Mb)



### Supplementary Movie 3

Three dimensional image for one hair bundle of a mouse cochlea showing  $^{15}\text{N}$  incorporation, from an adult mouse fed  $^{15}\text{N}$  for 56 days. The HSI scale is 0-100% incorporation. The tips of stereocilia have higher incorporation than do the stereocilia shafts; in addition, the cell membrane has higher turnover than the actin cores. (MOV file, 21Mb)

