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How Hydras get their heads

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In the 14 September [Nature](#) Hobmayer *et al.* find that Wnt signaling proteins are expressed in the head organizer of *Hydra*, a freshwater polyp, suggesting that Wnt was central in the evolution of axial differentiation in early multicellular animals (*Nature* 2000, **407**:186-189). Hobmayer *et al.* isolate a number of Wnt pathway proteins from *Hydra* and find that their protein-interacting domains are well conserved when compared with Wnt pathway proteins from metazoans. Expression of *Hydra* β -catenin in frog embryos duplicates the embryos' head structures, and Wnt signaling proteins are turned on in newly budded or regenerating *Hydra* heads. The previous candidates for ancient anterior patterners were the [Hox genes](#); determining how Hox function and Wnt function relate to each other will require further study.

References

1. Nature, [<http://www.nature.com/nature/>]
2. Evolution of Antp-class genes and differential expression of Hydra Hox/paraHox genes in anterior patterning.