

Supplementary Data 1: Differentially expressed genes upon Alsterpaullone treatment.

Supplementary Data 2: Significantly differentially expressed TFs after Alsterpaullone treatment.

Supplementary Data 3: Differentially expressed genes upon β -catenin knockdown and Alsterpaullone treatment.

Supplementary Data 4: Differentially expressed TFs upon β -catenin knockdown and Alsterpaullone treatment.

Supplementary Data 5: **a)** Wnt/ β -catenin signalling targets from Hydra, Planaria and Xenopus. **b)** Targets of Wnt/ β -catenin signalling from Hydra categorized based on selected gene ontology (GO) terms.

Supplementary Data 6: *Hydra vulgaris* Ind-Pune Hybrid assembly_cds.fsa

Supplementary Data 7: *Hydra vulgaris* Ind-Pune Hybrid assembly Annotation.gaf

Supplementary Data 8: **a)** Primers used for cloning, qRT-PCR of target genes and CHIP qRT-PCR; **b)** Sequences of siRNA oligos.

Supplementary Data 9: Source data for Fig. 3b, 3f, 4c, 4d and Supplementary Fig. 7b.