

SUPPLEMENTARY MATERIAL

corresponding to:

**Apoptosis in Hydra: function of HyBcl-2 like 4 and
proteins of the transmembrane BAX inhibitor
motif (TMBIM) containing family**

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| AEP reference | ecEp_SC2 | ecEp_SC3 | ecEp_bat1 | ecEp_bat2 | ecEp_bd | ecEp_head | ecEp_nem1 | ecEp_nem2 | enEp_SC1 | enEp_SC2 | enEp_SC3 | enEp_foot | enEp_head | enEp_nem1 | enEp_nem2 | enEp_tent | enEp_tent(pcd) | i_SC | i_fmgl1 | i_fmgl2 | i_gmgc | i_mgl | i_nb1 | i_nb2 | i_nb3 | i_nb4 | i_nc1 | i_nc2 | i_nc3 | i_nc4 | i_nc5 | i_nc6 | i_nc7 | i_nc8 | i_nc_gc_prog | i_nc_prog | i_nem | i_simgc1 | i_simgc2 | i_zmg1 | i_zmg2 |
|--------------------------------|----------|----------|-----------|-----------|---------|-----------|-----------|-----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|----------------|------|---------|---------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------------|-----------|-------|----------|----------|--------|--------|
| Hydra vulgaris2 0B2181aep | 1.68 | 1.81 | 1.74 | 1.85 | 1.35 | 1.74 | 1.75 | 1.81 | 1.7 | 1.68 | 1.26 | 1.45 | 1.58 | 1.7 | 1.72 | 1.23 | 1.58 | 1.16 | 1.35 | 1.46 | 1.28 | 1.75 | 1.15 | 1.21 | 1.21 | 1.23 | 1.28 | 1 | 1.45 | 1.29 | 0.99 | 1.18 | 1.13 | 1.24 | 1.24 | 1.17 | 1.6 | 1.34 | 1.69 | 1.21 | 1.51 |
| Hydra vulgaris9 4ff3g71aep | 0.08 | 0.13 | 0.12 | 0.16 | 0.16 | 0.12 | 0.18 | 0.1 | 0.13 | 0.14 | 0.08 | 0.14 | 0.13 | 0.15 | 0.18 | 0.12 | 0.11 | 0.06 | 0.09 | 0.13 | 0.1 | 0.19 | 0.09 | 0.13 | 0.28 | 0.33 | 0.11 | 0.12 | 0.1 | 0.1 | 0.09 | 0.09 | 0.09 | 0.11 | 0.07 | 0.12 | 0.07 | 0.12 | 0.11 | 0.09 | 0.09 |
| Hydra vulgaris6 8ff2g71abep | 0.48 | 0.68 | 1.08 | 1.09 | 0.5 | 0.62 | 0.57 | 0.63 | 0.51 | 0.46 | 0.25 | 0.47 | 0.46 | 0.49 | 0.45 | 0.45 | 0.5 | 0.16 | 0.3 | 0.46 | 0.19 | 0.24 | 0.16 | 0.12 | 0.12 | 0.11 | 0.2 | 0.12 | 0.17 | 0.18 | 0.11 | 0.15 | 0.08 | 0.21 | 0.2 | 0.22 | 0.18 | 0.26 | 0.23 | 0.13 | 0.15 |
| Hydra vulgaris1 4ff6g044aep | 0.66 | 0.83 | 0.75 | 0.83 | 0.59 | 0.64 | 0.77 | 0.78 | 0.98 | 0.89 | 0.59 | 0.84 | 0.93 | 0.9 | 0.88 | 0.75 | 0.72 | 0.33 | 0.49 | 0.67 | 0.68 | 0.23 | 0.41 | 0.43 | 0.54 | 0.42 | 0.23 | 0.22 | 0.21 | 0.27 | 0.39 | 0.28 | 0.29 | 0.36 | 0.45 | 0.4 | 0.44 | 0.77 | 0.7 | 0.55 | 0.63 |
| Hybak-like1 t22354aep | 0.48 | 0.68 | 0.7 | 0.63 | 0.43 | 0.59 | 0.62 | 0.59 | 0.84 | 0.73 | 0.56 | 0.64 | 0.67 | 0.72 | 0.69 | 0.5 | 0.37 | 0.4 | 0.45 | 0.68 | 0.24 | 0.22 | 0.4 | 0.36 | 0.12 | 0.1 | 0.2 | 0.12 | 0.17 | 0.18 | 0.11 | 0.15 | 0.08 | 0.21 | 0.38 | 0.22 | 0.18 | 0.26 | 0.3 | 0.13 | 0.15 |
| Hybak-like2 t12101aep | 0.03 | 0.08 | 0.1 | 0.1 | 0.03 | 0.07 | 0.07 | 0.06 | 0.07 | 0.02 | 0.03 | 0.06 | 0.04 | 0.09 | 0.09 | 0.04 | 0.04 | 0.13 | 0.23 | 0.3 | 0.03 | 0.12 | 0.1 | 0.06 | 0.02 | 0.04 | 0.01 | 0.01 | 0.02 | 0.01 | 0.02 | 0.01 | 0 | 0.03 | 0.06 | 0.02 | 0.06 | 0.02 | 0.01 | 0.01 | 0.02 |
| Hybcl- 2-like1t/137510aep | 0.19 | 0.19 | 0.59 | 0.78 | 0.14 | 0.13 | 0.21 | 0.34 | 0.34 | 0.61 | 0.23 | 0.07 | 0.56 | 0.46 | 0.33 | 0.05 | 0.29 | 0 | 0 | 0.04 | 1.01 | 0.03 | 0 | 0.01 | 0.03 | 0.06 | 0.51 | 0.39 | 0.51 | 1 | 1.25 | 0.83 | 0.55 | 1.45 | 0.03 | 0.19 | 1.17 | 1.28 | 1.16 | 0.73 | 0.74 |
| Hybcl-2-like- 2t14554aep | 0.99 | 1.34 | 0.64 | 0.81 | 0.36 | 1.19 | 1.06 | 1.15 | 1.44 | 0.94 | 0.75 | 0.98 | 1.37 | 1.18 | 1.06 | 0.96 | 0.73 | 0.3 | 0.54 | 1.85 | 0.82 | 0.07 | 0.07 | 0.08 | 0.15 | 0.22 | 1.54 | 1.02 | 1.11 | 1.2 | 1.16 | 1.31 | 0.99 | 1.07 | 0.98 | 1.3 | 0.43 | 1.08 | 1.4 | 0.44 | 0.48 |
| Hybcl-2-like- 4t22752aep | 0.87 | 1.1 | 1.14 | 1.13 | 1 | 1.12 | 1.01 | 1.02 | 0.84 | 0.69 | 0.48 | 0.75 | 0.84 | 0.8 | 0.66 | 0.92 | 0.91 | 0.72 | 0.74 | 0.81 | 0.47 | 0.49 | 0.71 | 0.58 | 0.48 | 0.35 | 0.96 | 0.87 | 0.93 | 1.55 | 0.63 | 0.64 | 0.72 | 0.71 | 0.86 | 0.93 | 0.64 | 0.52 | 0.63 | 0.25 | 0.27 |
| Hybcl-2-like- 6t14232aep | 0.3 | 0.36 | 0.21 | 0.39 | 0.45 | 0.36 | 0.37 | 0.38 | 0.67 | 0.44 | 0.25 | 0.6 | 0.5 | 0.64 | 0.56 | 0.62 | 0.78 | 0.23 | 0.26 | 0.28 | 0.11 | 0.31 | 0.2 | 0.11 | 0.14 | 0.21 | 0.18 | 0.11 | 0.12 | 0.04 | 0.15 | 0.12 | 0.15 | 0.09 | 0.1 | 0.12 | 0.52 | 0.18 | 0.25 | 0.03 | 0.07 |
| Hybcl-2-like- 7t22293aep | 0.05 | 0.16 | 0.2 | 0.25 | 0.08 | 0.23 | 0.1 | 0.11 | 0 | 0 | 0 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0 | 0.01 | 0.17 | 0.18 | 0.01 | 0 | 0.01 | 0.02 | 0.01 | 0.02 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.01 |

Fig. S1. Expression matrix from which heat map in Fig. 10 was created.

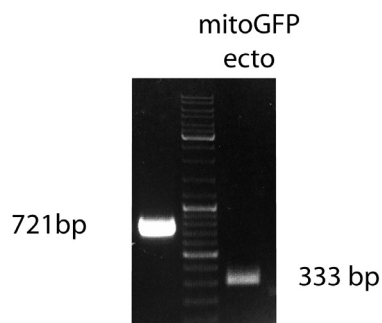


Fig. S2. Agarose gel electrophoresis of PCR-products obtained from genomic DNA of Bcl-2-like 4ecto and mitoGFPecto animals using primers for HoTG-sequences. Sizes of PCR-products are indicated.

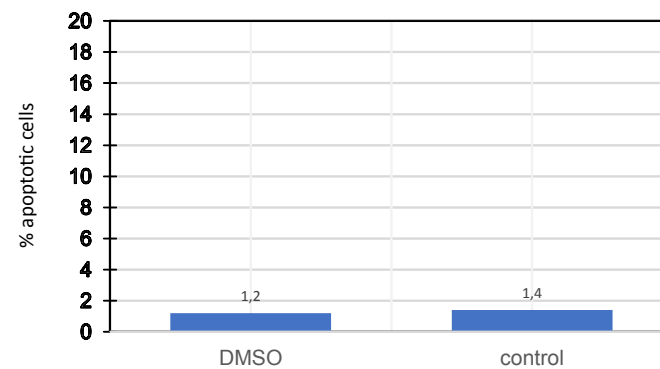


Fig. S3. Comparison of apoptotic index for epithelial cells in Hydra polyps of the AEP-founder strain Hydra-AEP wild type after 4.5 hrs in Hydra-medium with 1% DMSO (DMSO) or without DMSO (control), 1000 epithelial cells from two experiments were counted.