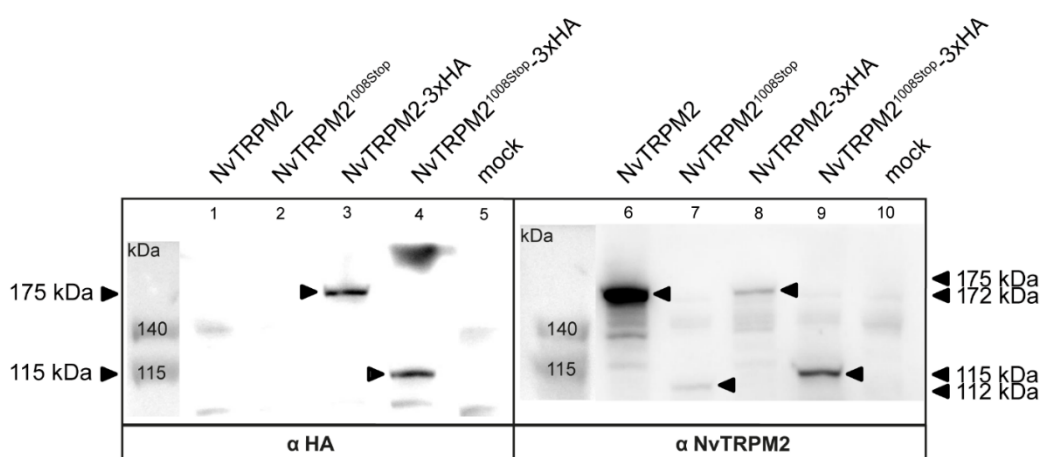
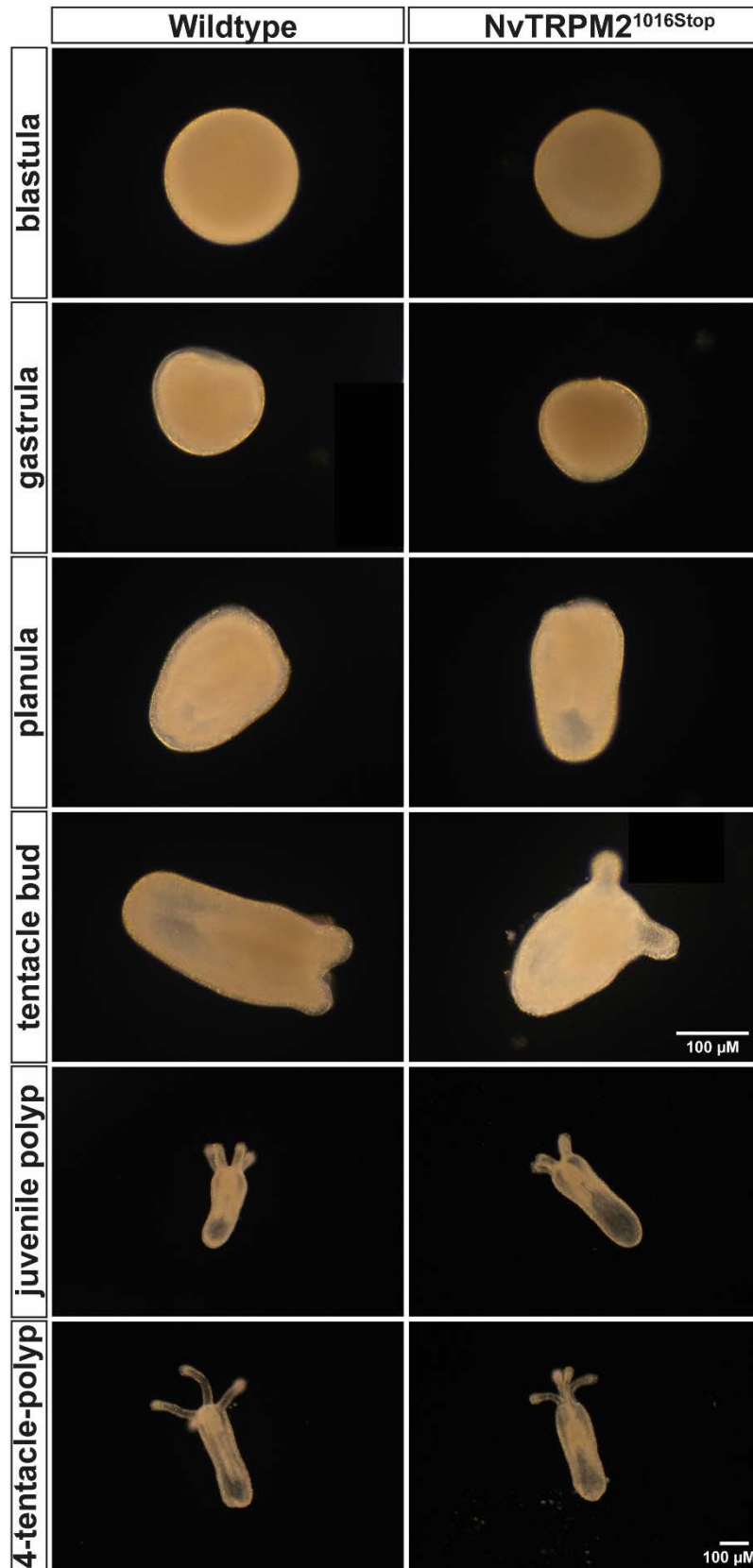


**Fig. S1.** An orthologue of the human NUDT9 enzyme is expressed in wildtype as well as heterozygous and homozygous *NvTRPM2*<sup>1016Stop</sup> animals of *Nematostella*. The NUDT9 expression in total cell lysates was analysed with adult individuals of *Nematostella* using SDS-PAGE gel electrophoresis and Western blot analysis. Parts of the head and foot of wildtype (+/+), heterozygous (+/-) and homozygous (-/-) *NvTRPM2*<sup>1016Stop</sup> animals were dissected and lysed. The same single protein band which corresponds to a protein mass of 31 kDa was detected using a commercially available anti-human NUDT9 antiserum in all three different genotypes examined. Three independent experiments gave similar results.



**Fig. S2.** Total expression of *NvTRPM2* and *NvTRPM2*<sup>1008Stop</sup> channels in HEK-293 cells. Lysates of cells, heterologously expressing wild-type *NvTRPM2* or *NvTRPM2*<sup>1008Stop</sup> either with or without 3x-HA tag, were analysed by SDS-PAGE gel electrophoresis and Western blot analysis. Mock-transfected cells were used as negative control. Screening with anti-HA-antiserum (left panel) revealed bands (*NvTRPM2*-3xHA: 175 kDa, *NvTRPM2*<sup>1008Stop</sup>-3xHA: 115 kDa) only in cell lysates with 3xHA-tagged channel variants. Screening with anti-*NvTRPM2*-antiserum (right panel) both revealed bands (*NvTRPM2*: 172 kDa, *NvTRPM2*<sup>1008Stop</sup>: 112 kDa) in cell lysates with the untagged channel variants and bands (*NvTRPM2*-3xHA: 175 kDa, *NvTRPM2*<sup>1008Stop</sup>-3xHA: 115 kDa) in cell lysates with 3xHA-tagged channel variants.



**Fig. S3. Comparison of the phenotypes of different developmental stages of wildtype and *NvTRPM2*<sup>1016Stop</sup> animals.** The physical appearance of representative larval stages of both genotypes are shown. No significant differences were found. The upper scale bar applies for the six upper bright-field images, the lower scale bar applies for the four lower bright-field images, both represent 100  $\mu$ m.