



**Figure S11** Disruption of endogenous PKA protein activity has no effect on dorsal axis formation and  $\beta$ -Catenin S675 phosphorylation. (A and B) Embryos were injected with 400 pg mRNA of PKI at one cell stage or treated with 10  $\mu$ M PKA selective chemical inhibitor H89 at 16-cell stage, then collected at sphere stage for whole mount *in situ* hybridization (A) and western blots (B). (C) Western blots for detecting the S675 phosphorylation of  $\beta$ -Catenin in sphere-stage embryos treated with 10  $\mu$ M IPA-3 or injected with 225 pg *dnpak1* mRNA.