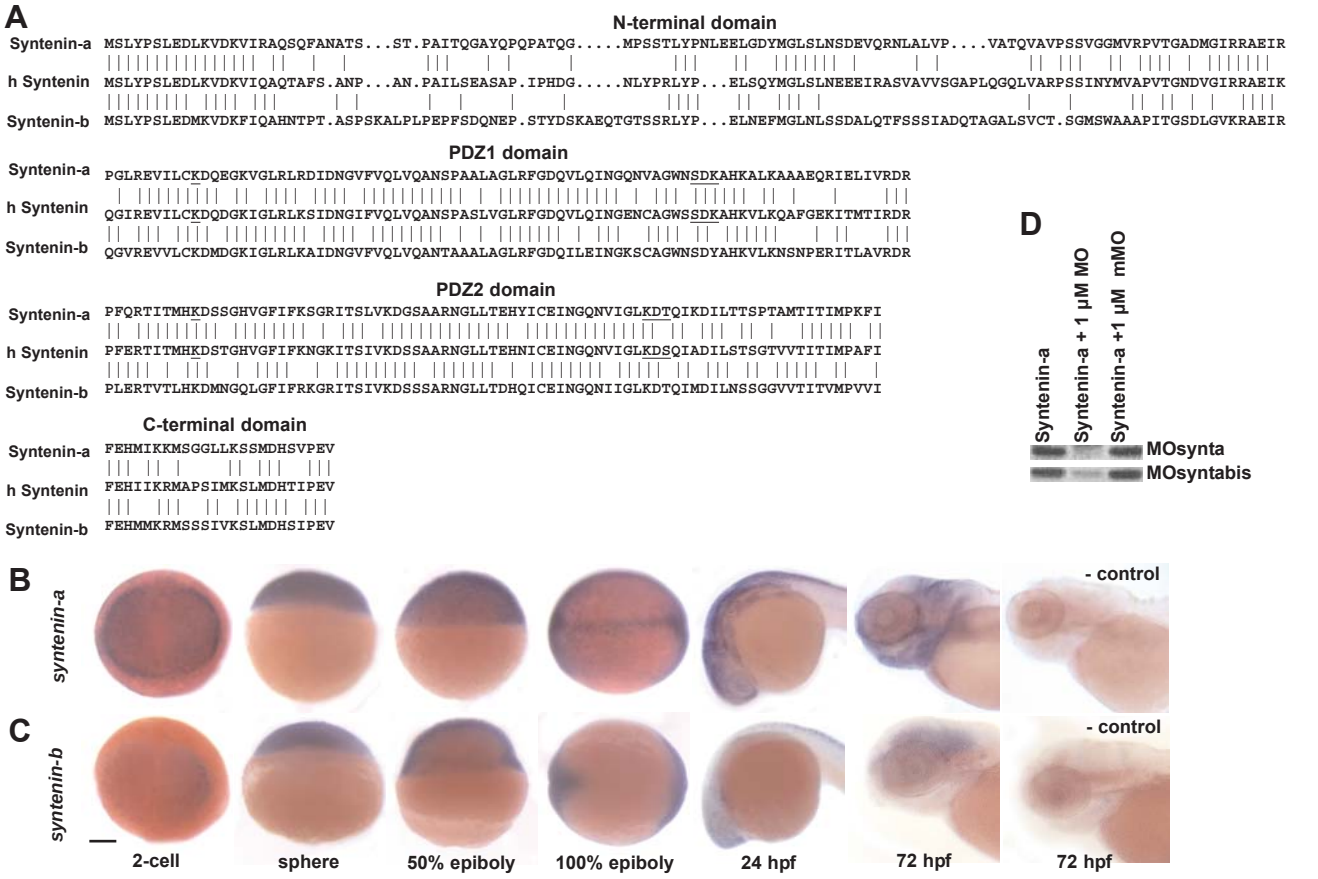

Fig. S1 Syntenin-a and -b in zebrafish, developmental expressions and effectiveness of morpholinos. (A) Sequence alignment of the two zebrafish Syntenins with human (h) Syntenin. Both proteins have similar domain organizations as the Syntenins found in other organisms, namely an N-terminal region, two PDZ domains in tandem and a C-terminal domain. Syntenin-a and Syntenin-b are 61% identical and, respectively, 69% and 61% similar to human Syntenin. The PDZ tandem, mediating most of the Syntenin interactions described so far, is highly conserved compared to the N-terminal region and the C-terminal domain. Underlined residues in the PDZ1 domain correspond to residues mutated for the PIP_2-interaction studies, Ala substituting for Lys120 and His-Glu-Gln replacing the residues 172Ser-Asp-Lys174. Underlined residues in the PDZ2 domain correspond to residues mutated for the syndecan-interaction studies, Ala substituting for Lys204 and Ser-His-Glu replacing the residues 251Lys-Asp-Thr253. (B,C) WISH illustrating the spatio-temporal expression of *syntenin-a* (B) and *syntenin-b* (C) transcripts at different stages of embryonic development, as indicated. Images correspond to lateral views except for the 2-cell stages which are animal pole views and the 100% epiboly stages which are dorsal views. The specificity of the reaction is illustrated for 72 hours post fertilization (hpf) embryos, showing no staining when a sense probe is used. Note that by 24 hpf, both signals became more restricted to the nervous systems. By 72 hpf, the Syntenin transcripts distributed in different brain areas. (D) Syntenin-a morpholinos, MOsynta and MOsyntabis, designed to inhibit the translation of *syntenin-a* mRNA are effective, as tested by in vitro transcription-translation assays, while their mismatch derivatives (mMO) have no effect on this translation.

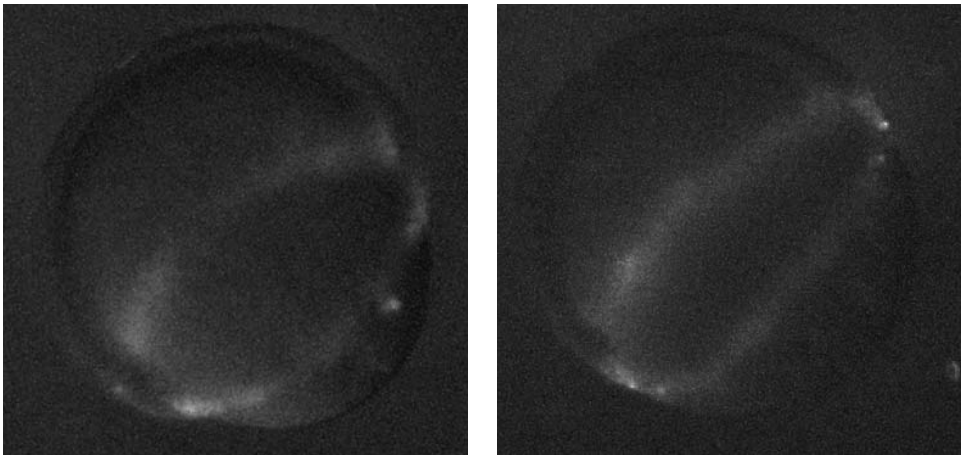

Fig. S2. The process of YSL endocytosis is not disrupted in Syntenin-a morphants. Views of embryos at 6.7 hpf incubated with Rhodamine-dextran showing the endocytic ring in control (left) and in 6 ng syntaMO-injected (right) embryos. To label endocytic vesicles, embryos at shield stage were placed in a 10 mg/ml solution of Rhodamine-labeled dextran (10.000 MW, Molecular probes). After 30 min of loading, embryos were washed and analysed immediately. Microscopic analyses were performed with a Leica Fluo Combi stereomicroscope connected to a Leica DC300 F camera.

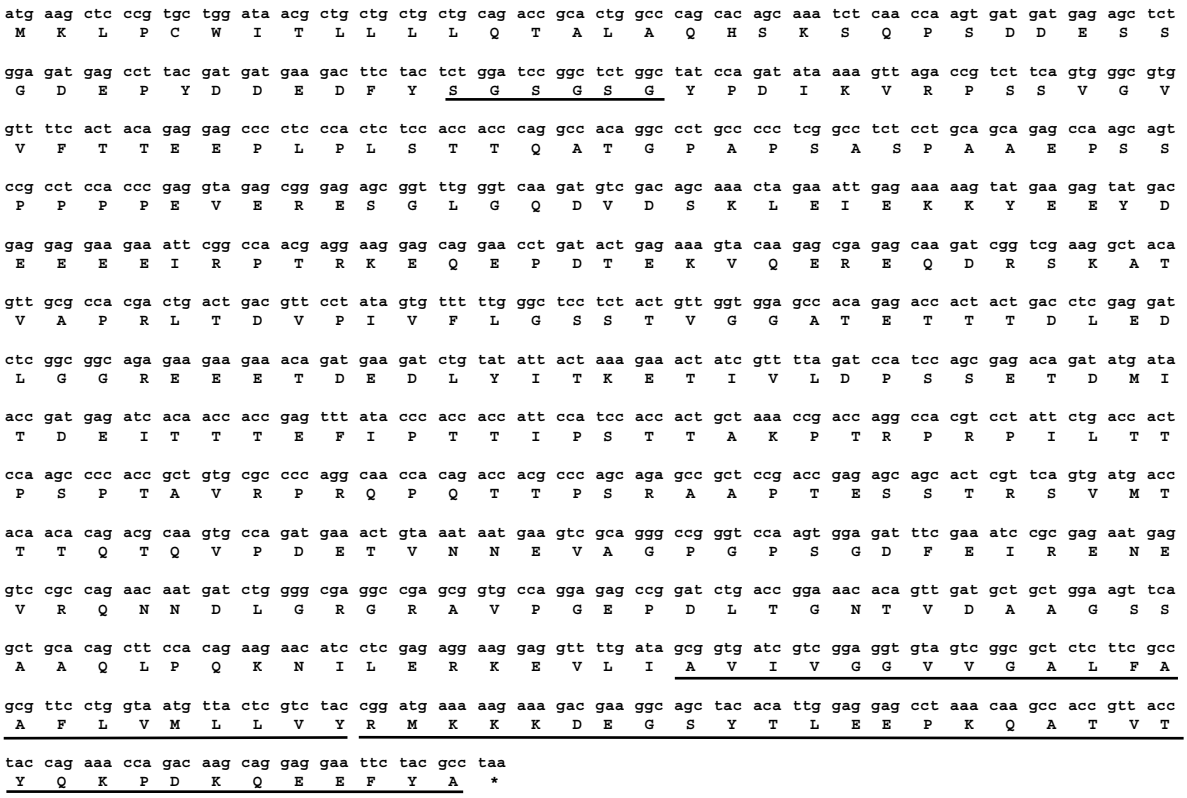

Fig. S3 cDNA and protein sequence of zebrafish syndecan-3. Regions corresponding to putative attachment sites for heparan sulfate chains and to predicted transmembrane and cytoplamic domains are underlined.

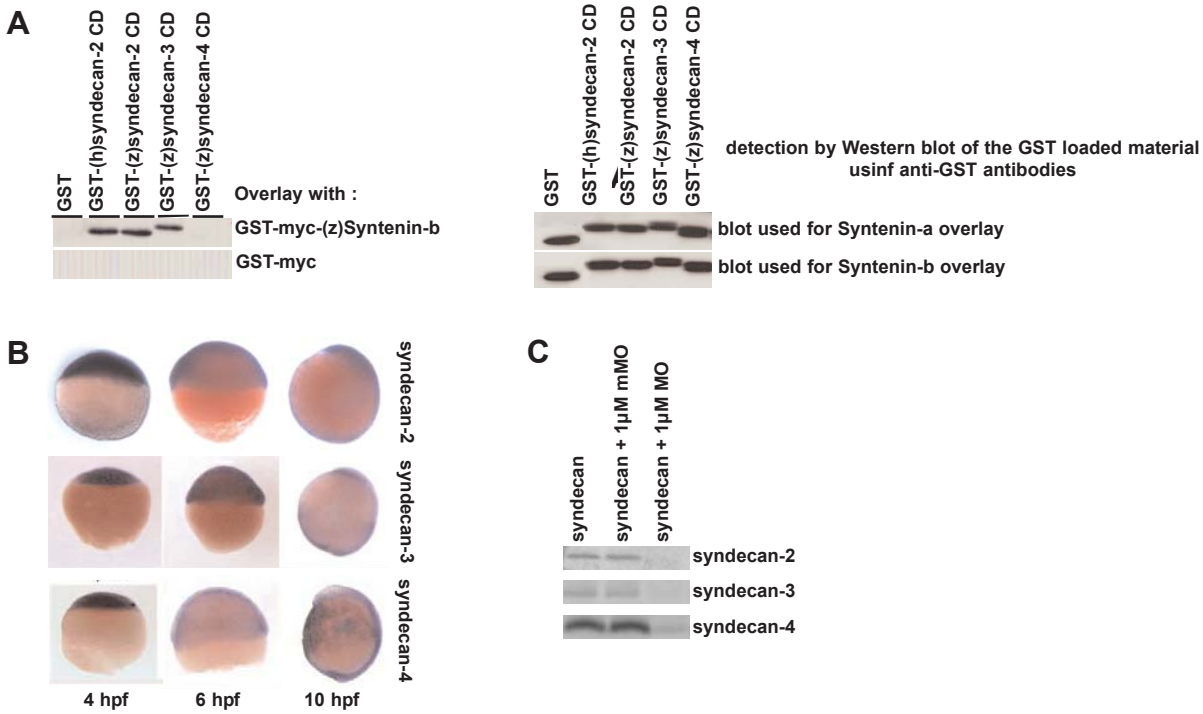

Fig. S4 (**A**) (Left) Ligand overlay illustrating the binding of GST-myc-Syntenin-b (upper panel) to various syndecan cytoplasmic domains and the absence of binding of GST-myc (lower panel). (Right) Control experiment by Western blot with anti-GST antibodies showing that similar amounts, of GST and GST-syndecan cytoplasmic domains were loaded for the overlays with GST-Syntenin-a (upper panel) or GST-Syntenin-b (lower panel). (**B**) WISH experiment showing the broad spatio-temporal expression of the different zebrafish syndecans at sphere (4 hpf), shield (6 hpf) and bud (10 hpf) stages. (**C**) In vitro transcription-translation experiment showing the activity of the MOs for the different syndecans and the ineffectiveness of their mismatch controls (mMO).