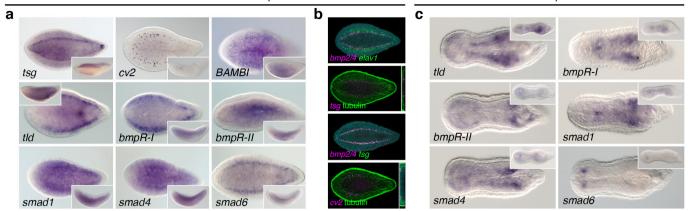
Nemertodermatid - M. stichopi

Acoel - I. pulchra



Extended Data Figure 4 | Expression of BMP components in Nemertodermatida and Acoela. a, In the nemertodermatid *M. stichopi*, the BMP pathway antagonists *twisted gastrulation (tsg)* and *crossveinless 2 (cv2)* are expressed dorsally, whereas the antagonist *BAMBI* is broadly detected in the ventral side. The gene *tolloid (tld)* is expressed both dorsally and ventrally. The BMP receptor *bmpR-I* is expressed dorsolaterally and *bmpR-II* is detected more broadly. The genes *smad1* and *smad4* are expressed broadly and *smad6* is expressed along the dorsal nerve cords. b, The BMP ligand *bmp2/4* is not expressed in neuronal cells

 $(elav1^+ \text{ cells})$, but in cells located medially to the nerve cords (tubulin positive). The cells expressing bmp2/4 also express tsg, and cv2 is expressed dorsally along the nerve cords. c, In the acoel I. pulchra, the BMP antagonist tld is expressed ventrally, bmpR-I is detected in the inner body, and bmpR-II is expressed anteriorly and posteriorly around the copulatory organ. The genes smad1 and smad4 are expressed generally, while smad6 is expressed in two bilaterally symmetrical anterior clusters. All main panels are dorsoventral views, and the insets are lateral views.