Scoliosis is when the spine is curved sideways in a C- or S-shape. This curvature makes the body appear asymmetric, causes back pain, and can even cause the ribcage to put pressure on the lungs and heart in severe cases1. Idiopathic scoliosis symptoms usually begin to show during the growth spurt just before puberty, and it affects 3% of adolescents worldwide2. Previous research has shown that mutations in the protein-tyrosine kinase-7 (*ptk7*) gene can result in curvature of the spine3. *Ptk7* is a critical regulator of the Wnt (Wingless/Integrated) signal transduction pathway, which generates waves of traveling gene expression along the posterior body axis during early embryonic development3. *Due to a lack of model organisms with spine structure sufficiently similar to humans, the details of the interaction between ptk7 variants and the Wnt signaling pathway remains unknown3.* It is important that we fill this gap in knowledge to allow us to have a better understanding of the underlying mechanism of scoliosis pathogenesis.

1. <https://www.mayoclinic.org/diseases-conditions/scoliosis/symptoms-causes/syc-20350716>
2. Grimes DT, Boswell CW, Morante NF, Henkelman RM, Burdine RD, Ciruna B. Science. 2016 Jun 10;352(6291):1341-1344.
3. Hayes M, Gao X, Yu LX, Paria N, Henkelman RM, Wise CA, Ciruna B. Nat Commun. 2014 Sep 3;5:4777.