

## **Axial Skeletal Malformations in Genetically Modified *Xenopus laevis* and *Xenopus tropicalis***

**Anne L Zlatow,<sup>1</sup> Sabrina S Wilson,<sup>2</sup> Donna M Bouley,<sup>1</sup> Joanne Tetens-Woodring,<sup>3</sup> Daniel R Buchholz,<sup>4</sup> and Sherril L Green<sup>1,\*</sup>**

---

### **Supplemental Materials**

**Figure S1.** Wildtype *X. laevis*: 3D rendering of osseous structures from CT scans. The skeleton is bilaterally symmetrical, and vertebrae are aligned in both the dorsal and sagittal planes. This normal adult *X. laevis* skeleton is representative of the normal *X. tropicalis* skeleton too, though *X. tropicalis* is generally smaller. <https://youtu.be/INLKdhnYRbw>

**Figure S2.** *X. laevis* (Frog 5): 3D rendering of osseous structures from CT scans. Axial skeletal abnormalities in this adult individual are described by Figure 5 B and include V1–V2 fusion, malformed transverse processes, scoliosis, kyphosis, and a torsional deformity of the vertebral column. The sacrum does not have an osseous connection to the ilium due to sacral transverse process malformation including a torsional component. <https://youtu.be/2FrvArDEe7E>

**Figure S3.** *X. laevis* (Frog 6): 3D rendering of osseous structures from CT scans. Axial skeletal abnormalities in this adult include severe kyphoscoliosis, malformed elongated transverse processes, and a shortened and curved urostyle. The sacrum does not have an osseous connection to the ilium due to sacral transverse process malformation including a torsional component. <https://youtu.be/CU-TR6G60gY>

**Figure S4.** *X. tropicalis* (Frog 9): 3D rendering of osseous structures from CT scans. Hunchback in this adult individual is due to mild kyphosis centered on V5–V8. <https://youtu.be/AqVtNI6Fp74>

**Figure S5.** *X. tropicalis* (Frog 10): 3D rendering of osseous structures from CT scans. Hunchback in this adult individual shows is due to mild kyphosis centered on V5–V8. [https://youtu.be/3UblxIHd7\\_s](https://youtu.be/3UblxIHd7_s)