



Landmarks

Facial

- 1 distal tip of lateral bulge medial to nare
- 2 distal mid-point of mandible
- 3 upper genal vibrissa follicle
- 4 rostral-most edge of external ear
- 5 caudal-most edge of external ear

Right side: Landmarks 1-5.

Left side: Landmarks 1'-5'.

Landmarks 1, 3, 4, and 5 are paired and used for lateral measurements, whereas landmark 2 is central and used (with landmark 5 and 5') for the measurement of mandibular length on both sides.

Distances measured

Each side of face

- | | |
|-------|---|
| 1-3 | maxillary length (right) |
| 1'-3' | maxillary length (left) |
| 2-5 | mandibular length (right) |
| 2'-5' | mandibular length (left) |
| 4-5 | external ear height (right) |
| 4'-5' | external ear height (left) |
| 5-5' | inter-auricular width (head size proxy) |

Supplementary Figure 6. Location and description of landmarks used for the quantitative assessment of craniofacial shape and symmetry. Five landmarks (1-5) are shown on the face of a wildtype E14.5 embryo. Landmark #2 is the only midline landmark and was used also for the left side measurements. Contralateral landmarks, corresponding to landmarks #1, 3, 4 and 5, were also collected on the left side of the face. The inter-landmark distances measured are indicated.