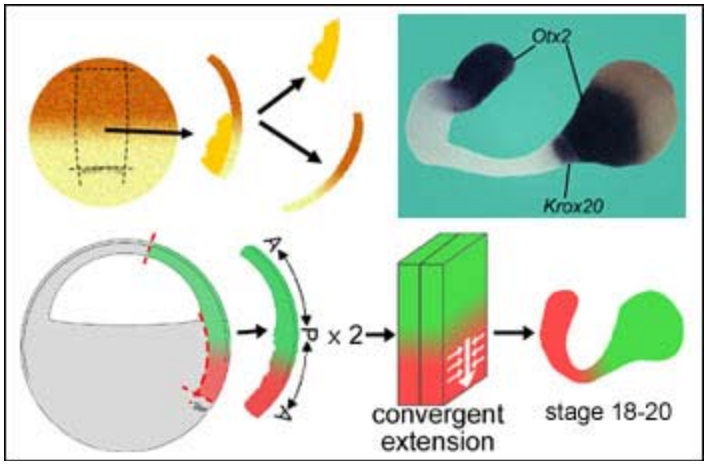
Keller sandwich explant - Hiroki Kuroda

Kuroda et al., PLoS *2*, 0623-0634 (2004)

This explant is very useful for experiments in planar neural induction and convergent extension.

Note: Always use 1x Steinberg's solution

- Cut two dorsal regions at stage 10 with forceps.
  Note. Stage 10.5 is too late.
- Remove yolk rich regions of both dorsal explants.
  Note. Without the removal of the yolk-rich regions, the mesoderm region will involute.
- Press together both explants with forceps every 5-10 minutes in the first 30 min to help the binding of both of the explants.
- Culture until stage 18-20.
  Note: The explant has a very beautiful shape at this stage.
  Note: It is possible to culture much longer but the notochord vacuolation after stage 22 will make the explant easily breakable.



10 x Steinberg's solution
NaCl 34g (580 mM), KCl 0.5g (6.7 mM), $CaNO_3$-$4H_2O$ 0.8g (3.4 mM), $MgSO_4$-$7H_2O$ 2g (8.3 mM), Kanamycin 0.1 g, Tris (MW=121) 6.0g (50 mM), adjust pH between 7.35-7.45 by HCl, adjust volume to 1L H_2O and autoclave.

1 x Steinberg's solution
Kanamycin 0.1g, 10x Steinberg's solution 100 ml, adjust volume to 1L H_2O and autoclave.