

# Autoradiography for mRNA detection in mouse embryo tissue sections

## Antonio Simeone

MRC Centre for Developmental Neurobiology, New Hunt's House, King's College London, Guy's Campus, London Bridge, London SE1 1UL UK.  
International Institute of Genetics and Biophysics, CNR, Via G. Marconi, 12, 80125 Naples, Italy.

### Equipment and reagents

- ◆ Water-bath at 45 °C in double door dark-room equipped with safelight
- ◆ Light-tight box
- ◆ Slide boxes containing sachet of desiccant
- ◆ Photographic emulsion: Kodak NBT2

### Method

**Use safelight conditions for all manipulations and check the emulsion has no intrinsic background.**

- 1 Prepare batches of emulsion as follows:
  - (a) Melt the emulsion in a water-bath at 45 °C for 30 min.
  - (b) Make 1:1 solution<sup>a</sup> by mixing emulsion and an equal volume of 1% glycerol in tubes that are carefully wrapped in aluminium foil and stored at 4 °C.
  - (c) Before being stored or utilized, batches of emulsion should be checked for endogenous background.<sup>b</sup>
- 2 Dip experimental slides (with sections) into the autoradiographic emulsion, allow each to drain vertically, and wipe the back of the slides.
- 3 Place the slides horizontally in a light-tight box and leave to dry for 2–3 h at room temperature.
- 4 Transfer the slides to a slide box containing desiccant, seal with black tape, wrap in aluminium foil, and place at 4 °C for 10–20 days.<sup>c</sup>

### Notes

- a 25 ml of 1:1 diluted emulsion are sufficient for more than 50 slides. The remaining solution can be stored at 4 °C and used again after checking its endogenous background.

- b To check the emulsion dip a couple of slides without sections for each batch, dry, and develop them as described in [Developing and staining slides for mRNA detection in mouse embryo tissue sections](#).
- c Exposure time can vary depending on the abundance of transcripts.