

## Running a DNA gel

### Materials:

Agarose  
TAE 1x  
SybrSafe DNA stain  
Loading Dye  
DNA ladder (Smartladder)  
DNA electrophoresis machine

### Protocol:

- 1、 Dissolve agarose (w/v 0.6% for separating long DNA pieces (>10 kbp), 1% for separating shorter pieces) in 1x TAE by microwaving
- 2、 Close sides of electrophoresis tray (scotch tape works fine) and add comb
- 3、 Let solution cool and add 5  $\mu$ l Sybrsafe to an empty electrophoresis tray (small gels) 10-12  $\mu$ l Sybrsafe for larger gels
- 4、 Pour gel until a height of ~0.5 cm. Mix and remove bubbles with pipet tip (fast! It hardens quickly)
- 5、 Put tray into electrophoresis casing and add TAE until a small layer above the gel can be seen. Remove comb
- 6、 Add 1  $\mu$ l loading dye to 5  $\mu$ l sample, mix and load in the gel. Also add 5  $\mu$ l smartladder for your reference
- 7、 Run gel on 80 V (long run)- 110 V (short run, mostly for a 'fast check') for ~40-60 minutes, dependant of gel size, separation acquisition and voltage.