

date:

01.11.2009

Safety Instruction

for the use of the Gel documentation system



Hazards for Humans and Environment



Risk of **burnings** due to UV radiation
Risk of **intoxication** due to Ethidium bromide



Protective Measures and Rules of Behaviour



- use **protective gloves** of **Nitrile** (e.g. Supreno SE from Microflex)
- do not cross contaminate other areas
- do not touch anything else with the gloves (or use only one glove)

• EtBr staining of agarose gels

- Prepare staining solution: add 10 µl EtBr (10 mg/ml) into 200 ml A. dest. (= 0.5 µg/ml)
- Stain the gel for 20-30 min (in the dark).
 - After usage, store the staining solution in a dark flask in the refrigerator for reusing it
 - When staining is not effective, pour staining solution over activated carbon
- Destain the gel twice for 5 min with A. dest. Pour the destaining solution over activated carbon
- Filterpaper: Circle, 20.5 cm, P4 (4-8 µm) for slow filtration (730 s) (e.g. Fisher 09-803-6J)
- Use 5 g activated carbon for filtrate 2 l staining/destaining solution

• Photo

- Place the gel (carefully) onto the UV-transilluminator, close the access door
UV light automatically turns off, when the access door is open
- Turn on Photosystem and Camera. Check camera settings:
Settings: B/W, f3.5-4.5, ISO 200, wide angle, Centre weight metering, Auto-focus, exposure: 1 s
Macro-off, Auto-WB, IS-off, Flash-off, Image size 2 MPix
- Turn on UV light and take immediately the photo (listen to shutter) and turn off UV light afterwards
*if needed, cut the desired band out of the gel, using a scalpel. Documentate success
if photo is dark change to ISO 400 and exposure of 2-4 s or restain the gel with fresh EtBr soln*

• Waste

- Remove gel (solid EtBr waste) and clean UV-transilluminator with A. dest.
- Decontaminated low concentration staining/washing solution can be poured into the drain
- Solid waste (gels, gloves, towels, filter) have to be collected separately for their incineration

First Aid



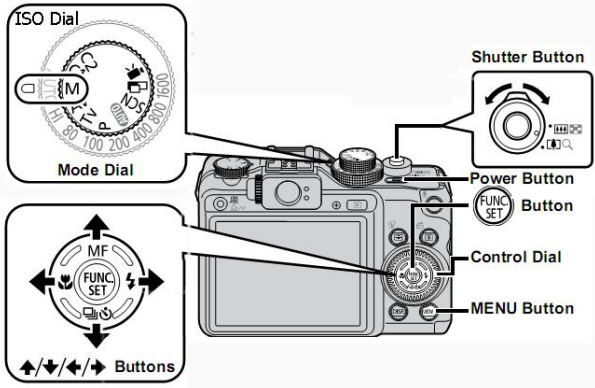
Contamination with EtBr: wash contaminated area with abundant water
Burning due to UV-radiation: apply first aid and consult a physician



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Camera has Tele-converter (2.2x) and band-pass filter for EtBr attached
Band-pass filter let pass only orange light, emitted from EtBr when excited
For non-UV gel documentation, this filter has to be removed and use epi-white light source