Instructions for use

ROTI®GelStain Red

20 000x solution in DMSO

Red fluorescent staining reagent for non-toxic staining of nucleic acids in agarose gels and polyacrylamide gels.

To be used at 1x concentration in agarose or polyacrylamide gels and at 0.5x concentration in electrophoresis buffer.

- Alternative to ethidium bromide, non-toxic, non-mutagen
- Detection of >0.3 ng nucleic acid per band
- Usable with the same filters as ethidium bromide
- Excitation via UV light (310 nm) and blue light (540 nm)
- Compatible with all usual downstream applications

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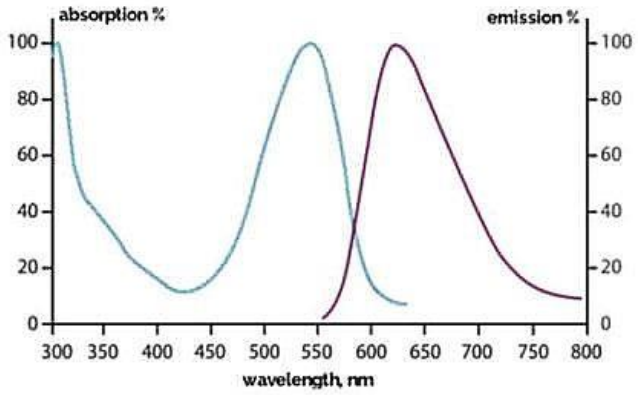
ROTI®GelStain Red is a new designed red fluorescent dye that can be used like ethidium bromide for staining in gel (addition to gel solution). Due to the low membrane permeability of the dye, ROTI®GelStain Red is non-mutagenic and non-toxic. It is suitable for staining of dsDNA, ssDNA and RNA. Bound to nucleic acid it emits a brightly red fluorescence that can be documented by all usual ethidium bromide foto filters.
ROTI®GelStain Red is compatible with all usual down-stream applications.

ROTI®GelStain Red is distributed for laboratory research only. Not for diagnostic use.
Excitation maximum (bound to DNA): approx. 310 nm and 540 nm
Emission maximum (bound to DNA): 630 nm



Sensitivity:
ROTI®GelStain Red, used for in-gel staining, detects up to 0.3 ng/band of nucleic acid, making it at least as sensitive as ethidium bromide. Post-run staining with ROTI®GelStain Red is not recommended.

Safe Use:
ROTI®GelStain Red is significantly less mutagenic than ethidium bromide as proven with the Ames-test. The non-carcinogenicity of the dye was demonstrated with an erythrocyte micronucleus test on mouse marrow, as well as with a chromosome aberration test on spermatocytes, both with and without S9 activation. Increased micronucleolus formation was not observed in any of the tests.

Application:
In-Gel Staining of Agarose Gels

1. Prepare a 100 ml Agarose solution in either TBE or TAE.
2. Let the solution cool down to 60-70 ºC.
3. Add 5 µl ROTI®GelStain Red to 100 ml agarose right before casting the gel.
4. Mix gently (avoiding air bubbles) and cast the gel.
5. Prepare the required volume of TBE or TAE for gel running and add 2.5-3 µl ROTI®GelStain Red per 100 ml to the running buffer.
6. Run the gel as usual and visualize nucleic acids under UV light or blue light (see ‘Helpful Comments’ below).

In-Gel Staining of Polyacrylamide Gels

1. Prepare the native or denaturing PAA gel solution according to our application note for ROTIPHORESE® PAGE-Gel solutions.
2. Add TEMED and APS and proceed to the next step immediately.

3. Add 5 µl of ROTI®GelStain Red solution per 100 ml of the gel right before casting the gel.
4. Mix gently (avoiding air bubbles) and cast the gel.
5. Add 2.5-3 µl of ROTI®GelStain to 100 ml of 1x TBE running buffer.
6. Add both gel and the buffer into the tank and run electrophoresis like usual and visualize nucleic acids under UV light.

Helpful Comments:

- Destaining is not needed, but it might help to reduce the background; post-run staining is not recommended.
- Use only Blue light if you intend to clone the DNA.
- Use Ethidium bromide filters for gel photography.
- After a few runs refresh the running buffer (as described in point 5). Reusing of running buffer in PAGE is not recommended.
- If you melt and reuse agarose, add at least half a portion of the stain each time after boiling and cooling the gel solution down.
- Although ROTI®GelStain Red has not been classified as dangerous reagent, it is good laboratory practice to always wear gloves when working with the product.

Content:
1 ml or 5 x 1 ml ROTI®GelStain Red stock solution

1 ml is sufficient for staining of approx. 600 minigels (with 30 ml agarose each).

Storage:
Store at 4 °C protected from light.

ROTI®GelStain Red	
0984.1	1 ml
0984.2	5 x 1 ml