



SmartGlow™ DNA Stain FAQs

Q: What is the difference between SmartGlow™ PS and SmartGlow™ LD?

A: The main difference between the two is the protocol. PS (Pre Stain) is used like EtBr, a small amount is added to the agarose solution before pouring the gels, and also a small amount is added to the running buffer. LD (Loading Dye) is added to the DNA/RNA sample prior to pipetting into the gel wells. Both types of SmartGlow™ are considered safer than EtBr, they are considered non-hazardous for disposal, and are excited using blue light or UV light.

Q: Does SmartGlow™ Loading Dye slow down or affect the separation of molecules (vs. non-stained nucleic acid samples)?

A: It is possible for the bound dye to slightly slow speed of migration, but generally not enough to significantly affect results. The SmartGlow™ PS is added to the agarose prior to electrophoresis and will have less effect on migration rate.

Q: Can the SmartGlow™ PS be used in a post stain process instead of pre-staining the gel?

A: The pre stain is not designed for post-staining gels.

Q: When is the SmartGlow™ PS (Pre Stain) added to Agarose?

A: Add the appropriate amount of SmartGlow™ PS to the agarose (5ul per 100ml solution) *after* the microwaving or heating step. It is not recommended to add the stain before microwaving.

Q: What are the shipping and storage conditions recommended for the SmartGlow™ Stains?

A: SmartGlow™ stains should be stored in their opaque tubes at 4°C, and at this storage temperature they will have a shelf life of 2+ years. The stains can be shipped at ambient temperature, they are stable for up to 7 days outside of cold storage.

Q: Are SmartGlow™ stains hazardous?

A: SmartGlow™ products are considered safer than Ethidium Bromide. They are non-carcinogenic at standard working concentration as determined by the Ames-test, with negative results in both mouse marrow chromophilous erythrocyte micronucleus and mouse primary spermatocyte chromosomal aberration tests. However, all laboratory chemicals and reagents should be handled with caution, and users should wear gloves and avoid skin contact.

Q: What solvents are used in the SmartGlow™ reagents?

A: SmartGlow™ PS stain is supplied in water, SmartGlow™ LD is supplied in 50% DMSO.

Q: How can SmartGlow™ Stains be disposed?

A: SmartGlow™ stains are considered non-hazardous waste as they are non-carcinogenic, do not contain heavy metals, are non-corrosive, non-flammable, and non-reactive. In addition, SmartGlow Stains have passed the environmental hazardous waste screen bioassay tests per California CCR Title 22. They can be safely disposed per your facility's SOP for non-hazardous waste.



SmartGlow™ DNA Stain FAQs (continued)

Q: What are the excitation and emission wave lengths for SmartGlow™ Stains?

A: Both SmartDoc™ PS and LD have excitation peaks at 290nm (UV) and 490 nm (blue), and emission peaks at 520nm and 635nm.

Q: What is the sensitivity of SmartGlow™ stains:

A: SmartGlow™ PS has a sensitivity range for visualization of 0.1-0.3ng of nucleic acid per band. SmartGlow™ LD has a sensitivity range of 0.2-0.6ng of nucleic acid per band.

Q: Is there a difference in excitation level using UV vs. Blue light for SmartGlow™?

A: UV light provides for slightly higher emission signal for SmartGlow™ LD and PS.

Q: Is there a dye front included in the SmartGlow™ LD?

A: Yes, SmartGlow™ LD includes a bromophenol blue tracking dye.

Q: After running a gel using SmartGlow™ PS, is there a recommended procedure for de-staining?

A: De staining should not be required. If there is significant background fluorescence, do not add the SmartGlow™ PS to the running buffer, or a smaller amount can be added to the buffer.

Q: Can a gel made with the SmartGlow™ PS be stored and used later?

A: Yes, SmartGlow™ PS will remain active in the gel for up to one week as long as the gel is stored at 4°C, and also covered so not exposed to light.

Q: Are SmartGlow™ stains compatible with gel extraction kits?

A: Yes, SmartGlow™ stains have been tested with many of the popular gel extraction kits on the market, and we have found no compatibility issues.

Q: I am getting a lot of background in the agarose gel using the SmartGlow™ PS, is there a way to improve contrast on the DNA bands?

A: It is recommended to add up to 5ul of the SmartGlow™ PS stain per 100ml of running buffer. If the background glow on gel is high, the amount of stain can be reduced to 2.5ul/100ml.

Q: Can SmartGlow PS be stored at 1X, or at a diluted concentration?

A: Yes, diluted SmartGlow™ PS can be stored at 4C, just as the concentrated product. For long term viability it should be protected from light.

Q: Is SmartGlow light sensitive?

A: SmartGlow is supplied as a concentrate in amber, light blocking tubes. It should be stored at 4°C and protected from light exposure in the original tubes to maintain best performance. However, it is not overly light sensitive as other fluorescent stains, so it does not have to be protected from light during standard lab work.