

SYBR Green I nucleic acid dye (10000×)

Item number: SYBR 1020

Specification: 50/100μL

Storage: Store at -20°C away from light, valid for 12 months.

Product Introduction:

When double-stranded DNA is detected by agarose electrophoresis or polyacrylamide electrophoresis, SYBR GreenI is a highly sensitive fluorescent dye. When it is bound to nucleic acid, it will produce strong fluorescence and high quantum yield. The quantum yield of DNA/SYBR GreenI complex is 0.8. SYBR dye can be used in low concentration conditions because of its strong signal after binding to nucleic acid, extremely low background, and high affinity to nucleic acid. The lowest detection limit of SYBR GreenI is 20pg DNA(254nm); 60pg DNA(300nm UV transmission); In addition, SYBR GreenI can also be used to detect oligonucleotides (1-2ng,300nm UV transmission), which is 20 to 100 times more sensitive than EB. SYBR GreenI can be used to detect DNA by electrophoresis, which can be either pre-dyed or then dyed after electrophoresis. After SYBR GreenI is used for DNA detection by agarose electrophoresis, the DNA can be directly transferred to the membrane for subsequent nucleic acid blot hybridization. In addition, the binding of SYBR GreenI with DNA has no inhibition on the activity of many commonly used restriction enzymes, and can be directly digested or linked.

Instructions for use (for reference only) :

The product is used in the same way as EB. Spot staining method: For agar-gel electrophoresis: take 1μl of the original solution and add TE buffer or sterilized double steaming water 1ml, then add 1ml of 6×DNA Loading buffer and mix well. (The solution is 1:2000 dilution, that is, the working liquid) During electrophoresis, take 1-2μL of the working liquid and 5μL of the electrophoresis sample, mix it well, stand for 5 minutes, and then directly load the sample.

Gel dyeing method: Conventional configuration of agar-gel 100ml, heating to melt, when the temperature is 50-70°C (does not feel hot) add 50uL-10μL of the stock solution dilution to 5-1 × (recommended dosage dilution to 5×, you can also adjust the amount of dye according to the actual electrophoresis situation). After the gel solidifies, it can be electrophoretic. After the end of electrophoresis, it can be observed under ultraviolet irradiation.

Points to note:

1. SYBR GreenI should be stored away from light, and the stock solution should be stored at -20°C; It is recommended to be frozen in separate packages and can be stored at 4°C for a short time.
2. The glue dyeing method is sensitive, and the commercial DNA marker must be diluted 5-10 times before use.

3. In the pre-dyeing method, the electrophoresis time should not exceed 2 hours, otherwise SYBR GreenI will separate from the DNA, which will produce a diffuse band.
4. In the conventional process of precipitating nucleic acids with alcohol, SYBR Green I can be completely removed from double-stranded nucleic acids.
5. The SYBR Green I bonded to the double-stranded DNA fluoresces green under ultraviolet irradiation. If the glue contains single-stranded DNA, it is orange rather than green.
6. SYBR Green has some affinity for glass and non-polypropylene materials. It is recommended to use polypropylene containers in the process of dilution, storage, dyeing, etc.

Related products:

- D1010* 6×DNA Loading Buffer
T1060 50 x TAE buffer
G8142 GoldView II type nucleic acid stain (5000×)
SY1040 SYBR Green II(10000×)

Related literature:

- [1] Baoling Ju, Ying Nie, Xufang Yang, et al. miR-193a/b-3p relieves hepatic fibrosis and restrains proliferation and activation of hepatic stellate cells. *Journal of Cellular and Molecular Medicine*. June 2019. (IF 4.658)
- [2] Wenlin Tai, Shuhao Deng, Wenjuan Wu, et al. Rapamycin attenuates the paraquat-induced pulmonary fibrosis through activating Nrf2 pathway. *Journal of Cellular Physiology*. July 2019. (IF 4.522)
- [3] Hongming Zhang, Moyan Liu, Yuyan Zhang, et al. Trimetazidine Attenuates Exhaustive Exercise-Induced Myocardial Injury in Rats via Regulation of the Nrf2/NF-κB Signaling Pathway. *Frontiers in Pharmacology*. March 2019. (IF 3.845)

Note: For more information on the use of this product, please refer to the Solarbio website.