

For Research Use Only

TokyoGreen[®]-βGal

Table 1. Product information

Code no.	Product	Contents	Storage	Stability
SK4001-01	TokyoGreen [®] -βGal	1 mg (in DMSO 0.4 mL)	Freeze-preservation, desiccate and protect from light.	1 year (unopened)

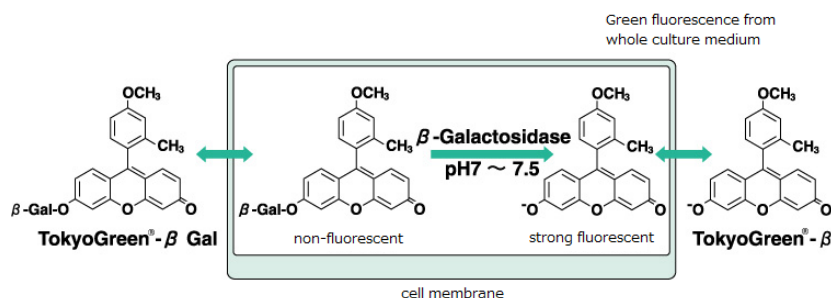
TokyoGreen[®]-βGal is permeable through the cell membrane and is fluorescent substrate (9-(4'-methoxy-2'-methylphenyl)-6-(β-D-galactopylanosyloxy)-xanthen-3-one) for detecting β-galactosidase. Cell lysis or fixation is not need since TokyoGreen[®]-βGal is taken into the cell. TokyoGreen[®]-βGal is applicable to the experiments of gene targeting and the cell cloning by using *lacZ* as gene marker.

1. About TokyoGreen[®]-βGal

- TokyoGreen[®]-βGal is recently-developed fluorescent chemical detecting the activity of β-galactosidase in living cells.
- TokyoGreen[®]-βGal is permeable through the cell membrane. Cell lysis, which is necessary for the previous colorreaction using ONPG, is not needed.
- Applicable to the measurement using fluorescence fluoroscopy or plate reader, since fluorescence in the reaction buffer ranges uniform.
- Able to continue culturing cells after the measurement of the β-galactosidase activation, because the reagent is removable by replacing the culture medium for several times.

2. Principle of the measurement

Non-fluorescent TokyoGreen[®]-βGal is taken into the cell, is hydrolyzed by the β-galactosidase, and generates bright fluorescent TokyoGreen[®]. TokyoGreen[®] is also permeable through the cell membrane, so that generated TokyoGreen[®] diffuses uniformly in the culture medium and that the whole medium makes green fluorescence (510 nm) when it is irradiated by the 490 nm excitation light.



3. Contents

TokyoGreen[®]-βGal 1mg (5 mM in DMSO 0.4mL)

C₂₇H₂₆O₉ Mw : 494.49

4. Reference

1. Y. Urano, M. Kamiya, K. Kanda, T. Ueno, K. Hirose, T. Nagano: *J. Am. Chem. Soc.* 127, 4888-4894 (2005).
2. T. Nagano, Y. Urano, M. Kamiya "Bioimaging and chemicalbiology" Saibo-kogaku (in Japanese) 24(11), 1187-1191 (2005).