



S-GAL™/KANAMYCIN/LB AGAR BLEND

Product Code **S 1813**

Storage Temperature Room Temperature

Product Description

S-Gal/Kanamycin/LB Agar Blend is a complete growth medium containing S-Gal (3,4-cyclohexenoescluletin β-D-galactopyranoside, a patented autoclavable chromogenic substrate for β-galactosidase.¹ The blend also contains the inducer isopropyl β-D-thiogalactoside (IPTG) and the antibiotic kanamycin.

S-Gal is dry-blended into the medium, making preparation of stock solutions in dimethylformamide (DMF) or dimethyl sulfoxide (DMSO) unnecessary. In addition to being autoclavable and microwavable, S-Gal is not light sensitive.^{2,3}

S-Gal outperforms X-gal in most molecular genetic applications involving color selection. The hydrolyzed aglycone (non-sugar portion) reacts with the Fe³⁺ (ferric ammonium citrate) to produce an intense black stain. Black colonies or plaques indicate the absence of a cloned DNA fragment, while unstained “cream-colored” colonies or plaques denote the presence of a cloned insert. Incubation of plates at 4 °C can further enhance this color contrast, but is typically unnecessary.^{2,3}

Note: The ferric (Fe³⁺) ion is required for color development. S-Gal/Kanamycin/LB Agar Blend is moderately dark due to the presence of ferric ammonium citrate. This darker background does not hinder (and often enhances) performance for automated colony counting or isolation.

Components	g/500 ml
Tryptone	5.0
Yeast extract	2.5
Sodium chloride	2.5
Agar	6.0
S-Gal	0.125
Ferric ammonium citrate	0.250
IPTG	0.025
Kanamycin	0.0175

Product Information

Intended Use

For R&D use only. Not for drug, household or other uses.

Preparation Instructions

Suspend contents of one packet in 500 ml distilled or deionized water. Sterilize by autoclaving for 15 to 20 minutes at 121-124 °C. For microwaving, heat suspended mix until initial boiling. Mix well. Heat for short intervals with mixing until agar component is in solution. Do not allow boiling for extended periods of time. Additional antibiotics should be added following autoclaving or microwaving, after cooling to 48-52 °C.

Storage/Stability

Prepared S-Gal/IPTG LB Agar/Kanamycin Blend can be stored at 4 °C. Autoclaved S-Gal/Kanamycin/LB Agar Blend can be microwaved without impairing performance. Prepared S-Gal/Kanamycin/LB Agar Blend is not light sensitive.

Product Profile

Appearance	Off-white/gray/tan powder
pH	7.0 (20 °C)
Application	Induction and detection of β-galactosidase expression in <i>E. coli</i> ; selection for kanamycin resistance

References

1. U.S. Patent #6,008,008.
2. Heuermann, K. and Cosgrove, J., S-Gal™: A superior dye to X-gal for clonal selection. LifeScience Quarterly, **2(2)**, 2-4 (2001) [LifeScience Quarterly is a newsletter of Sigma-Aldrich Corporation]
3. Heuermann, K. and Cosgrove, J., S-Gal™: An autoclavable dye for color selection of cloned DNA inserts. BioTechniques, **30(5)**, 1142-1147 (2001).

Precautions and Disclaimer

MSDS is available upon request or at www.sigma-aldrich.com.

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