Malachite Green Solution

K-1501
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Description:
Echelon's Malachite Green Solution provides a simple and convenient method for detection of lipid and protein phosphatases.

Application:
Echelon's Malachite Green Solution is designed for the in vitro measurement of phosphatase activity. The liberated phosphate, released with phosphatase activity, forms a colored complex with molybdate/malachite green. This colored complex is then quantified by reading the absorbance at 620 nm. This is a fast, convenient method that offers a flexible non-radioactive alternative for measuring specific phosphatase activities.

Properties:

Form – liquid, 20 mL
Storage instructions – Store at 4 ˚C for up to 6 months.

Other Materials Required:

- Microplate reader capable of measuring absorbance at 600-680. OD620 is used in the protocols outlined below.
- Standard 96-well, flat-bottom, clear microplate or 1 mL cuvette
- 1 mM Phosphate standard (Cat # 1502

Sensitivity:
Malachite Green Solution can detect as little as 50 pmol of free phosphate and is highly accurate from 200 to 2,000 pmol of phosphate per assay point (see Figure 1).

Data: Malachite Green Phosphate Standard

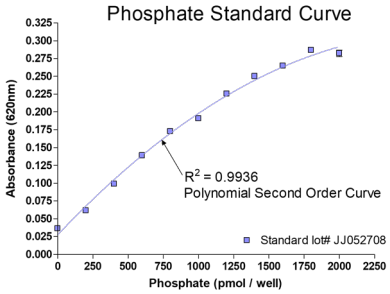


Figure 1: Malachite Green standard curve measuring free phosphate (K-1502) in solution. The standard curve was generated using polynomial second order non-linear regression analysis.

Assay Notes

1. Warm solution to room temperature before use.
2. Check enzyme and reaction solutions for phosphate contamination: mix 25 µL sample with 100 µL solution in a 96-well polystyrene plate. A yellow-to-green change, seen visually or at 620–660 nm, indicates contamination.
3. Do not use phosphate buffers (e.g., PBS).
4. Labware detergents may contain phosphate; use phosphate-free detergent or disposable plasticware.
5. Do not shake the plate during incubation; malachite green may precipitate.
6. For detailed protocols, please refer to the technical data sheet (TDS) for the Malachite Green Phosphatase Assay kit (Cat #K-1500).

References:

1. B. Martin et al. J. Biol. Chem. 1985 260 14932
2. K.W. Harder et al. Biochem. J. 1994 298 395
3. R.B. Campbell et al. J. Biol. Chem. 2003 278 3

Hazardous Properties and Cautions: The toxicological and pharmacological properties of this compound are not fully known. For further information see the MSDS on request. This product is manufactured and shipped only in small quantities, intended for research and development in a laboratory utilizing prudent procedures for handling chemicals of unknown toxicity, under the supervision of persons technically qualified to evaluate potential risks and authorized to enforce appropriate health and safety measures. As with all research chemicals, precautions should be taken to avoid unnecessary exposures or risks.

Warranty and Disclaimer: Echelon warrants the product conforms to the specifications stated herein. In the event of nonconformity, Echelon will replace products or refund purchase price, at its sole option, and Echelon shall not be responsible for any other loss or damage, whether known or foreseeable to Echelon. No other warranties apply, express or implied, including but not limited to warranty of fitness for any purpose or implied warranty of merchantability. Purchaser is solely responsible for all consequences of its use of the product and Echelon assumes no responsibility therefore, including success of purchaser's research and development, or health or safety of any uses of the product.

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