

New Luminosassays

...Interactive Assay Solutions

2008

DetectX™ by LUMINOS

One Component Assays - simple and easy to use...

DetectX™ Formaldehyde Fluorescent Detection Kit

Introduction

Formaldehyde (methanal), $H_2C=O$, is a colorless, flammable, strong-smelling gas. It is an important industrial chemical used to manufacture building materials and to produce many household products. In the US approximately 3×10^9 Kg are produced annually¹.

In addition, formaldehyde is commonly used as an industrial fungicide, germicide, and disinfectant, and as a preservative in mortuaries and medical laboratories. Materials containing formaldehyde can release formaldehyde gas or vapor into the air. Formaldehyde can also be released by burning wood, kerosene, natural gas, or cigarettes, from automobile emissions, and from natural processes. Formaldehyde can undergo rapid chemical changes immediately after absorption. Studies have suggested that formaldehyde may affect the lymphatic and blood systems and that exposure to formaldehyde may cause leukemia, particularly myeloid leukemia, in humans.

Industrial workers who help to produce formaldehyde or formaldehyde-containing products, laboratory technicians, health care professionals, and mortuary employees may be exposed to higher levels of formaldehyde than the general public². Exposure occurs primarily by inhaling formaldehyde gas or vapor from the air or by absorbing liquids containing formaldehyde through the skin. The National Cancer Institute (NCI) has determined that there is an association between occupational exposure to formaldehyde and an increase in the risk of cancer.

Several NCI studies have found that anatomists and embalmers, professions with potential exposure to formaldehyde, are at an increased risk for leukemia and brain cancer compared with the general population. For example a multi-centered US study determined increased risk of nasopharyngeal cancer with formaldehyde exposure³.

1. US Consumer Product Safety Commission, Release #79-059.
2. International Agency for Research on Cancer, June 2004, www.iarc.fr/ENG/Press_Releases/archives/pr153a.html
3. TL Vaughan, et al, *Occup. Environ. Med.*, 2000, 57, 376-384.

Assay Principle

The DetectX™ Formaldehyde kit is designed to quantitatively measure formaldehyde present in tissue culture media and urine samples. Please read the complete kit insert before performing this assay. A formaldehyde standard is provided to generate a standard curve for the assay and all samples should be read off the standard curve. Standards or diluted samples are pipetted into a black microtiter plate.

The fluorescent reaction is initiated with the DetectX™ Formaldehyde reagent, which is pipetted into each well. After a short incubation the emission of the generated fluorescent signal is detected in a microtiter plate reader capable of measuring 510 nm fluorescence utilizing 390-410 nm excitation wavelength. The concentration of the formaldehyde in the sample is calculated, after making a suitable correction for the dilution of the sample, using software available with most fluorescence plate readers.

...distributed by:



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...DetectX™ Formaldehyde Fluorescent Detection Kit

Supplied Components

- **Black Microtiter Plate 96 well** (Cat. No. X001-1EA)
- **Formaldehyde Standard 0.5 mL** (Cat. No. C001-500UL)
2,000 µM formaldehyde solution in deionized water. Outer container has formaldehyde absorbing pad. The standard is stable if kept tightly sealed.
- **DetectX™ Formaldehyde Reagent 5 mL** (Cat. No. C002-5ML)
Special formulation of reagents to detect formaldehyde in solution. Contains ≤0.09% sodium azide as a preservative.
- **Plate Sealer 1 each** (Cat. No. X002-1EA)

Storage Instructions

All components of this kit should be stored at 4°C until the expiration date of the kit.

Other Materials Required

- Incubator. An incubator capable of accurately maintaining 37°C.
- A supply of distilled or deionized water free of formaldehyde.
- Fluorescence 96 well plate reader capable of reading fluorescent emission at 510 nm, with excitation at 390-410 nm.
- Software for converting raw relative fluorescent unit (FLU) readings from the plate reader and carrying out four parameter logistic curve (4PLC) fitting.
- Contact your plate reader manufacturer for details.

Sample Types Validated:

Human Urine and Tissue Culture Media

DetectX™ Formaldehyde Fluorescent Detection Kit

Cat.No.	Size	Price €
K001-F1	96 well	453,10

...also available:

DetectX™ Creatinine Detection Kits

DetectX™ Urinary Creatinine Detection Kit

Cat.No.	Size	Price €
K002-H1	192 well	251,85

DetectX™ Serum Creatinine Detection Kit

Cat.No.	Size	Price €
KS02-H1	192 well	251,85

DetectX™ Cortisol Obelin Immunoassay Kit

DetectX™ Cortisol Luminescent Immunoassay Kit

Cat.No.	Size	Price €
K003-B1	96 well	388,70

Recombinant Obelin

Cat.No.	Size	Price €
L001-100UG	100µg	420,90

Please note!

All products are for research use only.
Not for use in diagnostic protocols.

BIOTREND warrants that at the time of shipment this product is free from defects in materials and workmanship. This warranty is in lieu of any other warranty expressed or implied, including but not limited to, any implied warranty of merchantability or fitness for a particular purpose.

We must be notified of any breach of this warranty within 48 hours of receipt of the product. No claim shall be honored if we are not notified within this time period, or if the product has been stored in any way other than outlined in this publication. The sole and exclusive remedy of the customer for any liability based upon this warranty is limited to the replacement of the product, or refund of the invoice price of the goods.