FOR RESEARCH USE ONLY!

Carrez Clarification Reagent Kit

12/13

(Catalog # K809-100; 100 assays; Store at Room Temperature)

I. Introduction:

Carrez clarification reagents are used to treat a wide variety of samples intended to be analyzed by enzymatic or other means. The reagents cause precipitation of proteins and fats, elimination of interference due to a number of redox compounds, which can affect assays and eliminates turbidity and emulsions particularly in food testing. The treatment of samples with Carrez Clarification Reagents is simpler, less expensive and takes less time than other methods such as spin filtering. Use of Carrez reagents is not suitable for samples in which enzymatic activities are to be quantified. Most samples collected for analyses of small molecule analytes such as carbohydrates, alcohols, aldehydes and organic acids can be prepared using this reagent system. These reagents must not be used to prepare samples for analytes such as ascorbate, ammonia, citrate or analytes, which may be converted to these in enzyme based assays, such as urea (→ ammonia), aconitate (→ citrate). The procedure is quick, simple and dilutes samples by a minimal amount.

II. Application:

- Preparation of samples for further analysis (bioassay, HPLC, etc.)

III. Sample Type:

- Foods (meats, milk and milk products, forage, cereals, etc.)
- Blood

IV. Kit Contents

Components	K809-100	Cap Code	Part Number
Carrez Reagent I	500 µl	Amber	K809-100-1
Carrez Reagent II	500 µl	Blue	K809-100-2

V. User supplied Reagents and Equipment

- Sample preparation equipment (homogenizer, Turrax, etc.)
- 0.22 µM syringe filters
- Buffer, pH 7.5-8.0 or 50 mM NaOH

VI. Storage and Handling:

Store kit at room temperature. Avoid exposing Carrez Reagent I to strong acids as this can generate toxic cyanide gas. Both reagents are supplied ready to use.

VII. Protocol:

1. Take 10 mg of a sample and homogenize in 100 µl of dH_2O until a uniform suspension is formed. Transfer to a disposable microcentrifuge tube.
2. Add 5 µl of Carrez Reagent I and vortex several sec. to mix. Add 5 µl Carrez Reagent II and vortex until homogeneous.
3. Centrifuge for 2 min. at 10,000 X g to pellet insolubles. Transfer the clear supernatant to a fresh tube. For analytes, which are present in relatively high abundance, dilute 100X with dH_2O and use directly.

   Note: For analytes present in small amounts where dilution of the sample may present detection problems, adjust the pH of the sample to pH 7.5-8.0 to precipitate excess Zinc ions from Reagent II. This can be accomplished with a buffer at a volume ratio of approximately 1:1 with sample. A brief centrifugation or filtration through a 0.22 µM filter will remove the $Zn(OH)_2$ precipitate. Alternatively to minimize dilution, 50 mM NaOH can be used. Caution must be used in this case since the sample has a very low inherent buffer capacity and it is very easy to make the solution very alkaline, which can cause decomposition of many analytes.

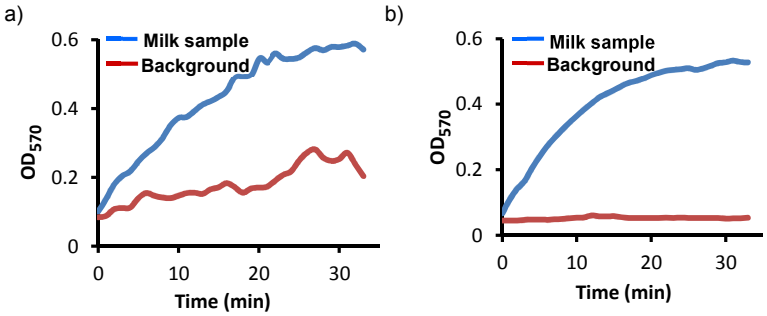

Figure: Comparison of analysis of glucose in milk using Carrez reagents. 100 µl of fat-free milk untreated (a) or treated with 5 µl of each Carrez Reagent sequentially (b) was centrifuged to remove precipitated material and diluted 100X. 10 µl was added to a 96-well plate. Lactose in samples was hydrolyzed using β-galactosidase and glucose produced was analyzed using a Glucose Assay Kit (Cat # K606).

VIII. RELATED PRODUCTS:

Deproteinizing Sample Preparation Kit (K808)

10K Spin Column (1997)