**Acetone (K-CHECK Tablets) (for urine, serum or plasma)**

**PURPOSE:** To define the procedure to be used for testing acetone using **K-Check Reagent** **Tablets** (Biorex Labs).

**POLICY:** Testing of acetone will be done according to the following procedure.

**PRINCIPLE**: Acetoacetic acid or acetone in urine or blood will form a colored complex with nitroprusside in the presence of glycine. A buffer provides the optimum pH for this reaction.

**REAGENTS**: K-CHECK (Biorex Labs) Reagent Tablets.

**INSTRUMENT N/A**

 **SPECIMEN:**

Fresh urine, serum, plasma or whole blood. Refrigerate specimens for up to 48 hrs if cannot be tested immediately. Avoid urines with preservatives.

**INTERFERING SUBSTANCES**

Urines containing bromsulfalein, sulfhydryls, or very high quantities of phenylketones may give false positive results, as will urines preserved with 8-hydroxyquinoline. L-dopa metabolites may give an atypical reaction which could be interpreted as a positive result.

**QUALITY CONTROL**

The following should be run each time a test is run:

1, Positive; Standard (see below),

2. Negative: Distilled water.

**STANDARD**

Place 0.1 ml of full strength acetone into 80 ml of distilled water. This should give a small to moderate positive result.

**PROCEDURE**

1. Remove tablet from bottle and recap promptly. Place tablet on clean, dry, white paper,

2. Put one drop of standard, urine, serum, plasma or whole blood directly on top of tablet.

3.

**a**. For urine testing - compare color of tablet to color chart at 60 seconds after application of specimen.

1. For serum or plasma testing compare color of tablet to color chart at two minutes and 30 seconds after application of specimen.
2. For whole blood testing, ten minutes after application of specimen.

Remove clotted blood from tablet and compare color tablet to color chart.

4. Record control results in Acetone Control Log Book.

**REPORTING**

Results with **K-Check tabs** are recorded as negative if no purple color is apparent on the tablet at the appropriate reading time. Disregard any pink, tan or yellow color. Positive results are recorded as small, moderate or large in comparison with the color chart.

**CALCULATIONS**: None

**REFERANCE RANGE**: Negative

**RANGE OF LINEARITY**

K-Check will detect as little as 5 mg of acetoacetic acid and acetone. It is about 10 times more sensitive to acetoacetic acid than acetone and will not react with betahydroxybutyric acid.

**CLINICAL SIGNIFICANCE**

Excessive formation of acetone or ketone bodies results in increased blood levels (ketonemia) and

increased excretion in the urine (ketonuria). This is observed in conditions associated with a decreased intake of carbohydrates, such as starvation, digestive disturbances, and frequent vomiting. Another more frequent cause of increased production of ketone bodies is decreased utilization of carbohydrates such as is found in diabetes mellitus.

**REFERENCES**

1. Tietz, Norbert, Ph.D. Fundamentals\_Qf Clinical Chemistry. W.B. Saunders Company, Philadelphia, 1976, p. 934
2. K-CHECK (Biorex Labs) Product insert, Cat No. B1555, 2015
3. Khan MI, Weinstock RS. Carbohydrates. In: McPherson RA, Pincus MR, *eds.Henry's Clinical Diagnosis and Management by Laboratory Methods.* 22nd ed. Philadelphia, PA: Elsevier Saunders; 2011:chap 16.