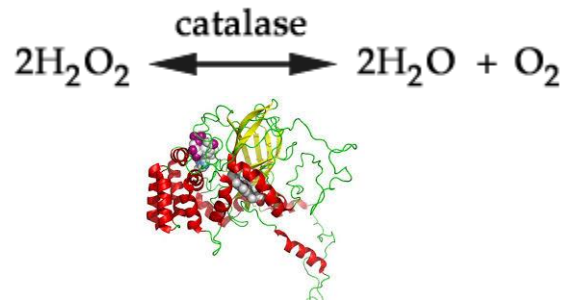


Catalase activity (CAT) Assay kit (96 Tests)

INTRODUCTION

Biocore Diagnostika CAT assay Kit provides a simple, reproducible, and standardized tool for assessment of Catalase activity in biological sample e.g. **plasma, serum, tissue homogenates, and cell lysates**. The CAT activity determine colorimetrically at 405nm.



Kit Contents:

1. Reagent 1: BCD-R1 (Contains optimized Buffer), 10ml. (CAT41)
2. Reagent 2: BCD-R2 (Contains H_2O_2 as substrate), 1ml, (CAT42)
3. Reagent 3: BCD-R3 (Chromogen powder), 500mg (CAT43)
4. Reagent 4: BCD-R4 (Clearing agent), 1mL (CAT44)

Assay Range:

Biocore CAT assay kit can be use for CAT activity determination in range of 1-100U/mL.

Assay Sensitivity:

Biocore CAT activity assay kit can determine CAT in biological samples with 0.5U/mL sensitivity (0.5KU/L). In this assay, CAT activity unit was considered as the amount of the sample that will catalyze decomposition of 1 μmole of H_2O_2 to water and O_2 in one minute.

Assay Precision:

Human serum sample with replication No.8 showed the intra and inter assay coefficient of variation 6.3% and 7.9% respectively.

Reagent preparation:

- 1) R1, R2 and R4 are ready to use reagents.
- 2) Preparation of R3 reagent: Add 10ml double distilled water to the Chromogen powder before use. Store at 4°C .

Assay Protocol:

1. All reagents and samples must be equilibrated to RT before test. Shake the unknown sample for homogenation well.
2. Add 10µL standards/samples to related name test tubes and 10µL normal saline as blank.
3. Add 100µL R1 reagent (at RT, but preferably warmed at 37°C).
4. Add 10µL R2 (at RT, but preferably warmed at 37°C).
5. Mix well and incubate the reaction for 1min (exact 60sec) (preferably at 37°C).
6. Add 100µL R3 reagent.
7. Add 10µL R4 reagent.
8. Mix well and read the absorbance at 405nm.
9. Calculate CAT activity in unknown samples based on below formula:

Calculation:

$$\text{Catalase activity } \left(\frac{U}{mL} \right) = (OD_{\text{blank}} - OD_{\text{sample}}) \times 271 \times \left(\frac{1}{60} \times \text{Sample Volume} \right)$$

$$\text{e. g. } OD_{\text{blank}} = 0.720 \text{ and } OD_{\text{sample}} = 0.675$$

$$\text{Catalase activity } \left(\frac{U}{mL} \right) = (0.720 - 0.675) \times 271 \times \left(\frac{1}{60} \times 10 \right) = 2.03U/mL$$

References

1. L.Goth. A simple method for determination of serum Catalase activity and revision of reference rang. Clinica Chimica Acta, 196, 1991 (143-152).
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