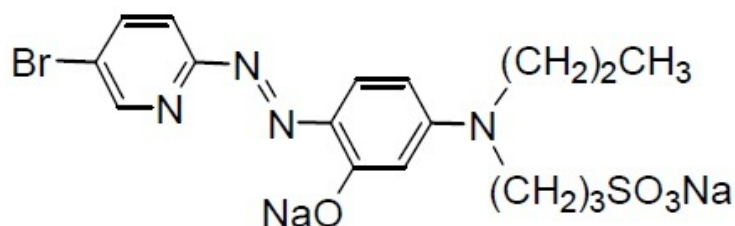


## ZellBio Zinc (Zn) assay kit (96 Tests) (V4126)

### Introduction:

**ZellBio** (GmbH, Germany) zinc assay Kit provides a simple, reproducible, and standardized tool for assessment of zinc in biological samples e.g. **plasma (EDTA cannot be used), serum, urine, CSF, tissue homogenates, and cell lysates**. Zinc present in the sample is chelated by 5-Br-PAPS in the reagent. The zinc determine colorimetrically at **546nm**.



Zinc is an essential trace metal, which is second only to Iron. It is present in Zinc metallo-enzymes e.g. carbonic anhydrase, alkaline phosphatase, RNA and DNA polymerases, thymidine kinase, carboxypeptidases and alcohol dehydrogenase.

### Kit Contents:

1. Reagent 1: ZB-Zn-R1, Zinc Reagent 23mL, (Zn211), Ready to Use.
2. Reagent 2: ZB- Zn-R2, Standard (210µg/dL) 0.4mL, (Zn212).
3. Microplate: ZB-Zn-M, (Zn213).

### Assay Range:

ZellBio Zinc assay kit can be used for total zinc content determination in range of up to 400µg/dL (61.2µmol/L). Expected Value for human sample usually is 72.6-127µg/dL (11.1-19.5µmol/L) for male and 70-114µg/dL (10.7-17.5µmol/L) for female.

### Assay Sensitivity:

ZellBio zinc assay kit can determine zinc content in wide variety of biological samples with 10 µg/dL sensitivity. The assay sensitivity was determined based on zero standard signal repeat and Mean±2SD.

### Assay Precision:

Human serum sample with replication No.10 showed the intra and inter assay coefficient of variation 1.8% and 2.3% respectively.

### Assay Protocol:

All reagents/samples must be equilibrated to RT before test. Shake the samples for homogenation.

1. Add 10µL unknown samples/standard/DDW as blank into related wells of microplate.
2. Add 200µL Zinc Reagent into all wells.
3. Incubate 5min at 25°C/37°C.
4. Read the wells absorbance with microplate reader/ELISA reader at 546nm.
5. Calculate lactate in unknown samples based on below formula:

$$\text{Zinc } (\mu\text{mol/L or } \mu\text{g/dl}) = \left( \frac{OD \text{ Sample} - OD \text{ Blank}}{OD \text{ Standard} - OD \text{ Blank}} \right) \times \text{Standard Concentration}$$

### References:

1. Makino T. A (1999) - Simple and sensitive colorimetric assay of zinc in serum using cationic porphyrin. Clin Chim Acta. 1999 Apr; 282(1-2):65-76.
2. Knoell, DL et al (2009) - Zinc deficiency increases organ damage and mortality in a murine model of polymicrobial sepsis. Crit Care Med 37(4):1380-8.
3. Padiglia, A et al (2010) - Sensitivity to 6-n-propylthiouracil is associated with gustin (carbonic anhydrase VI) gene polymorphism, salivary zinc, and body mass index in humans. Am J Clin Nutr 92(3):539-45.
4. Gunasekara, P et al (2011) - Effects of zinc and multimineral vitamin supplementation on glycemic and lipid control in adult diabetes. Diabetes Metab Syndr Obes 4:53-60.
5. Leung, KW et al (2011) - ZIP2 and ZIP4 Mediate Age-Related Zinc Fluxes Across the Retinal Pigment Epithelium. J Mol Neurosci
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