



QuantiChrom™ Zinc Assay Kit

ZINC is an essential trace element and plays many key roles in metabolism. It is required for the activity of more than 300 enzymes, the structure of many proteins, and control of genetic expression. Zinc status affects basic processes of cell division, growth, differentiation, development, performance and aging through its requirement for synthesis and repair of DNA, RNA and protein. The common causes of zinc deficiency are low dietary intakes and low bioavailability. Clinical signs of zinc deficiency include acrodermatitis, low immunity, diarrhea, poor healing, stunting, hypogonadism, fetal growth failure, teratology and abortion. Zinc deficiency¹ has now been recognized to be associated with many diseases such as malabsorption syndrome, chronic liver disease, chronic renal disease, sickle cell disease, diabetes, malignancy, and other chronic illnesses.

Simple, direct and automation-ready procedures for measuring zinc concentration in biological samples are highly desirable in Research and Drug Discovery. BioAssay Systems' zinc assay kit is designed to measure zinc directly in biological samples without any pretreatment. The present method utilizes a chromogen that forms a colored complex specifically with zinc. The intensity of the color, measured at 425 nm, is directly proportional to the zinc concentration in the sample.

APPLICATIONS:

Direct Assays: zinc in serum, plasma (no EDTA), urine, saliva etc.

Drug Discovery/Pharmacology: effects of drugs on zinc metabolism.

Environment: zinc determination in waste water, soil etc.

KEY FEATURES:

Sensitive and accurate. Uses 50 μL samples. Linear detection range 0.12 μM (0.78 $\mu\text{g/dL}$) to 10 μM (65 $\mu\text{g/dL}$) zinc in 96-well assay format.

Simple and high-throughput. The procedure involves addition of a single working reagent and incubation for 30 min. Can be readily automated as a high-throughput assay for thousands of samples per day.

Improved reagent stability and versatility. The optimized formulation has greatly enhanced reagent and signal stability. Cuvette or 96-well plate assay formats possible.

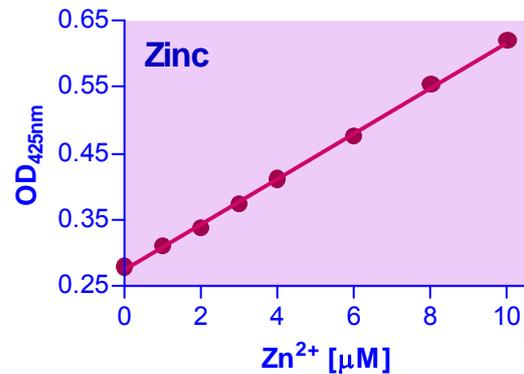
Low interference in biological samples. No pretreatments are needed. Assays can be directly performed on raw biological samples, i.e. in the presence of lipid and protein.

PRODUCT INFORMATION:

QuantiChrom™ Zinc Assay Kit DIZN-250

Each kit is sufficient for 250 assays in 96-well plate. Kit includes:

- 1 x 50 mL Reagent A
- 1 x 1 mL Reagent B
- 1 x 1 mL Reagent C
- 1 x 1 mL EDTA Solution
- 1 x 1 mL Zinc Standard



Standard Curve in 96-well plate assay

REFERENCES:

- [1]. Prasad. AS (2003) Zinc deficiency. *BMJ* 326:409-410.
- [2]. Neal DE Jr, Kaack MB, Fussell EN, Roberts JA. (1993) Changes in seminal fluid zinc during experimental prostatitis. *Urol Res.* 21(1): 71-74.
- [3]. Fuentes J, Miro J, Riera J. (1982) Simple colorimetric method for seminal plasma zinc assay. *Andrologia.* 14(4): 322-327.