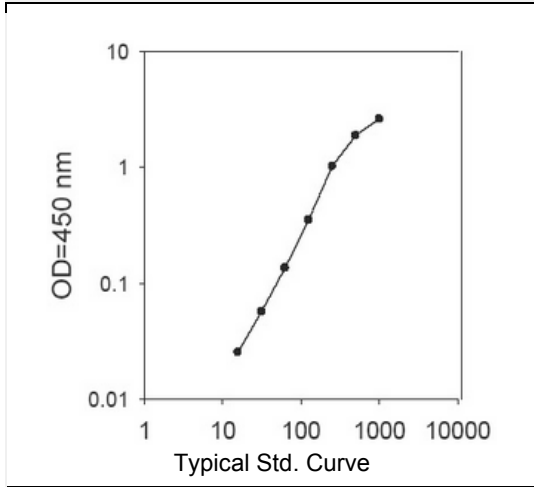


Human Brain Natriuretic Peptide (BNP) ELISA Kit, 96 tests, quantitative Cat# 100-400-BNP

Human BNP ELISA is a competitive immunoassay for the measurement of human BNP in cell culture medium and urine serum. Serum or plasma may be tested if BNP concentrations are within the range of the kits. For in vitro research use only.



- ELISA Kit Features**
- Anti-human BNP pre-coated, stabilized, ready-to-use 96-well strip plate, stable for ~12 months.
 - Recombinant BNP stds.. (14-1000 pg/ml).
 - Sample size: 100 ul
 - 285 mins. (150+60+45+30). 5 incubation steps at RT.
 - Sensitivity: >14 pg/ml; Good Recovery and Assay Precision.
 - Contains all necessary reagents. Shelf life ~12 months.
 - For in vitro research use only.

Assay Procedure: Allow all reagents to reach room temperature. Arrange and label required number of strips.

- Step 1.** Add 100 ul each of standards, controls and samples into appropriate wells. Cover and incubate with shaking at RT for 2.5 hrs.
- Step 2. Aspirate and Wash 4X.** Add 100 ul of Biotinylated antibody to each well. Incubate with shaking at RT for 1 hr
- Step 3. Aspirate and Wash 4X.** Add 100 ul of streptavidin soln. to each well. Incubate with shaking at RT for 45 mins.
- Step 4. Aspirate and wash 4X.** Add 100 ul of TMB substrate solution to all wells, mix gently, cover and incubate with shaking at RT for 30 mins.
- Step 5.** Pipet 50 ul of stop solution into each well and mix gently (blue color turns yellow). Incubate. Measure absorbance at 450 nm.

Calculation of Results

Plot the mean absorbance value of each standard against the concentration. Concentrations of controls and samples can then be read from the standard curve.

Precision

Intra-assay (%CV) (<10)

Inter-assay (%CV) (<15)

Sample recovery (%): Serum: (68-83%) Plasma : (67-107%) Cell Culture media (83-105%)

Linearity: Serum: (97-104 %) Plasma : (90-131%) Cell Culture media (76-92%)

Species reactivity: This ELISA detects BNP in human samples. Detection of other species has not been determined.

General information

Brain natriuretic peptide (BNP), (aka B-type natriuretic peptide), is a 32 amino acid polypeptide secreted by the ventricles of the heart in response to excessive stretching of myocytes in the ventricles. BNP was originally identified in extracts of porcine brain, but in humans it is produced mainly in the cardiac ventricles. Its counterpart in rats is a 45 amino acid peptide hormone. At the time of release, a co-secreted 76 amino acid N-terminal fragment (NT-proBNP) is also released with BNP. BNP binds to and activates NPRA in a similar fashion to atrial natriuretic peptide (ANP) but with 10-fold lower affinity. The biological half-life of BNP, however, is twice as long as that of ANP. Both ANP and BNP have limited ability to bind and activate NPRB. Physiologic actions of BNP include decrease in systemic vascular resistance and central venous pressure as well as an increase in natriuresis. Thus, the resulting effect of BNP is a decrease in cardiac output and a decrease in blood volume.

Tests showing elevated levels of BNP or NT-proBNP in blood are used as a diagnosis of heart failure and may be useful to establish prognosis in heart failure, as both markers are typically higher in patients with poorer outcome. Both BNP and NT-proBNP have been approved as a marker for acute congestive heart failure (CHF). The plasma concentrations of both BNP are increased in patients with asymptomatic and symptomatic left ventricular dysfunction. There is no level of BNP that perfectly separates patients with and without heart failure.

ADI's BNP ELISA is a competitive enzyme immunoassay (ELISA) for the quantitative measurement of BNP in human serum, plasma and other biological fluids (culture medium, urine)

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