

Technical Information

Brain-derived natriuretic peptide Fragment BNP Fragment

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|---------------------|---|
| Cat. No.: | BI-20852W |
| Tests: | 96 |
| Method: | ELISA |
| Range: | 0 – 6400 pmol/l |
| LLOQ: | 171 pmol/l (STD2 200 pmol/l) |
| Incubation time: | 16-25 h @ +4°C / 20 min |
| Sample volume: | 30 µl |
| Sample type: | Serum, plasma |
| Sample preparation: | Centrifuge freshly collected blood as soon as possible Store centrifuged samples at -20°C for longer storage. Samples are stable up to 5 freeze and thaw cycles. Hemolyzed or lipemic samples may cause erroneous results. |

Reference values: Median serum (n=76) = 392 pmol/l

Species: Human

Intended use:

The natriuretic peptides are members of a family of structurally similar but genetically distinct peptide hormones, consisting of atrial-, brain-, and C-type (ANP, BNP, and CNP, respectively). ANP and BNP preferentially bind to a membrane-bound guanylyl cyclase (GC) receptor called GC-A or NPR1, whereas CNP is the physiological ligand for GC-B (NPR2). The natriuretic peptides play an important role in the regulation of cardiovascular and renal homeostasis and in the regulation of fatty acid metabolism and body weight. BNP is mainly expressed by ventricular myocardium in response to volume overload and increased filling pressure. BNP has a cleavable signal sequence. Mature BNP consists of 108 amino acids (proBNP or BNP-108), and undergoes cleavage resulting in physiologically active BNP-32 and additional C-terminal fragments (cf. http://www.uniprot.org/uniprot/P16860#PRO_0000001532), along with a physiologically inactive N-terminal peptide comprising amino acids 1-76, which is further degraded proteolytically. BNP fragments in the circulation are therefore very heterogenous. BNP has a key role in cardiovascular homeostasis with biological actions including natriuresis, diuresis, vasorelaxation, and inhibition of renin and aldosterone secretion. A high concentration of BNP in the bloodstream is indicative of heart failure. The discovery of natriuretic peptides identified an endocrine system that contributes to diuresis and vascular tone. The biology, biochemistry and the pathophysiological role of natriuretic peptides are described in several reviews.

Intended applications:

- Cardiac impairment, acute myocardial infarction, (left ventricular dysfunction)
- Renal failure Skeletal development
- Obesity and diabetes
- Various forms of secondary hypertension

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