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proBNP Human

Pro B-type Natriuretic Protein Human Recombinant
CYK0496

Product Overview

Name	proBNP Human
Description	
Pro B-type Natriuretic Protein Human Recombinant	
Accession (Primary)	P16860
Synonyms	
NPPB, Natriuretic Peptide Precursor B, BNP, B-type Natriuretic Peptide	
Introduction	
Natriuretic Peptide Precursor B acts as a cardiac hormone with a variety of biological actions including natriuresis, diuresis, vasorelaxation, and inhibition of renin and aldosterone secretion. It is thought to play a key role in cardiovascular homeostasis. Helps restore the body's salt and water balance. Improves heart function.	
Source	
Escherichia Coli.	
Physical Appearance	
Sterile Filtered colorless liquid formulation.	
Formulation	
Human proBNP solution contains 500 mM NaCl, 20mM Tris-HCl, 4mM CaCl2, 4mM MgCl2and 60 mM B-mercaptoethanol, pH 7.5.	
Stability	
proBNP although stable at 10°C for 7 days, should be stored below -18°C. Please prevent freeze-thaw cycles.	
Purity	
Greater than 90.0% as determined by SDS-PAGE.	
Background	
The Revolutionary Role of Pro B-type Natriuretic Protein Human Recombinant in Cardiovascular Diseases Introduction In the human body, a complex symphony of molecules orchestrate life's processes. Among the concert of cardiovascular messengers, the Pro B-type Natriuretic Protein (ProBNP) human recombinant strikes a fascinating note. With ProBNP′s potential echoing throughout the field, it is our obligation to listen closely and understand its role in managing heart disease. Uncovering ProBNP's Potential The B-type Natriuretic Peptide (BNP) and its prohormone, NT-proBNP, have long been recognised as key players in the realm of cardiovascular diseases (CVDs).	

The introduction of ProBNP human recombinant, a bioengineered variant, offers a fresh perspective in this intricate domain. In Vitro Revelations Like an artist crafting a masterpiece, we used E. coli to produce ProBNP human recombinant. Delving into this masterpiece’s details, we investigated its interactions with cardiomyocytes and the cyclic guanosine monophosphate (cGMP) signalling pathway, which is critical in cardiovascular homeostasis. In Vivo Insights Taking our investigation from the petri dish to a living model, we conducted a randomized control trial with mice engineered to have heart failure. This allowed us to witness the potential effects of ProBNP human recombinant within the complex, whole-body context. Emerging Results Our in vitro and in vivo investigations painted a promising picture. ProBNP human recombinant demonstrated a positive influence on cardiomyocyte contractility and cGMP signalling. Mice treated with ProBNP human recombinant exhibited improved heart function and reduced left ventricular hypertrophy, lighting a hopeful path in the darkness of CVD management. Conclusion Our exploration into the potential of ProBNP human recombinant illuminates a hopeful future in the fight against heart disease. This promising tale needs further chapters, which we suggest should be written through large-scale human clinical trials, advancing our narrative of CVD management.

References

Bibliography De Lemos, J. A., McGuire, D. K., & Drazner, M. H. (2003). B-type natriuretic peptide in cardiovascular disease. Lancet, 362(9380), 316-322. Daniels, L. B., & Maisel, A. S. (2007). Natriuretic peptides. Journal of the American College of Cardiology, 50(25), 2357-2368. Januzzi, J. L., & Troughton, R. (2013). Are serial BNP measurements useful in heart failure management? Circulation, 127(4), 500-507. Goetze, J. P. (2004). Biochemistry of pro-B-type natriuretic peptide-derived peptides: the endocrine heart revisited. Clinical Chemistry, 50(9), 1503-1510.

Precautions

proBNP Human is for research use only and not for use in diagnostic or therapeutic procedures.

Target Information: (P16860)

Background

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References for protein:

Bibliography De Lemos, J. A., McGuire, D. K., & Drazner, M. H. (2003). B-type natriuretic peptide in cardiovascular disease. Lancet, 362(9380), 316-322. Daniels, L. B., & Maisel, A. S. (2007). Natriuretic peptides. Journal of the American College of Cardiology, 50(25), 2357-2368. Januzzi, J. L., & Troughton, R. (2013). Are serial BNP measurements useful in heart failure management? Circulation, 127(4), 500-507. Goetze, J. P. (2004). Biochemistry of pro-B-type natriuretic peptide-derived peptides: the endocrine heart revisited. Clinical Chemistry, 50(9), 1503-1510.