

Extraction-Free Endothelin Assay

Endothelins are a family of potent vasoconstrictor peptides comprising three isoforms. It is found in a host of mammalian species and is thought to have a potent effect in both the cardiovascular and central nervous systems. Endothelin-1 (ET-1), Endothelin-2 (ET-2) and Endothelin-3 (ET-3) have 21 amino acids and two disulfide bridges. Endothelin is found to circulate in the blood in significant levels and is thought to be involved with increasing blood pressure upon receptor binding.

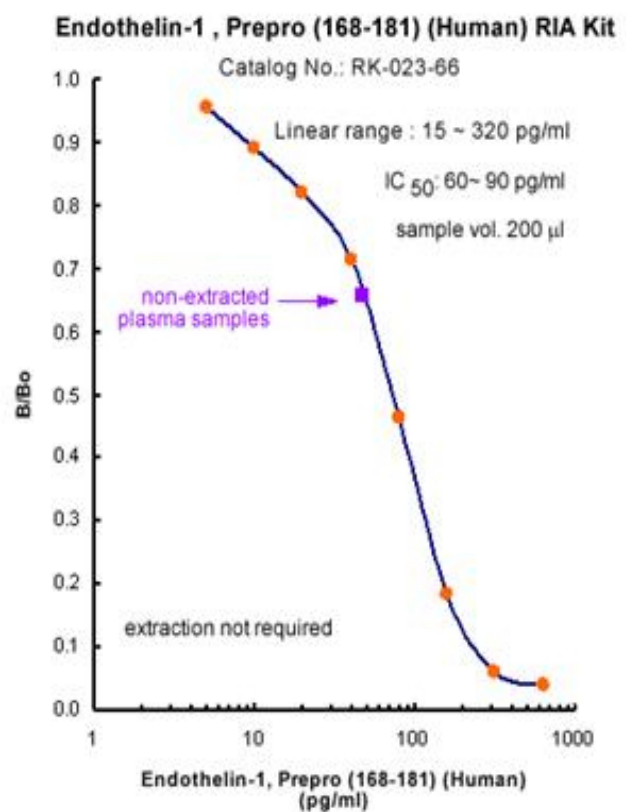
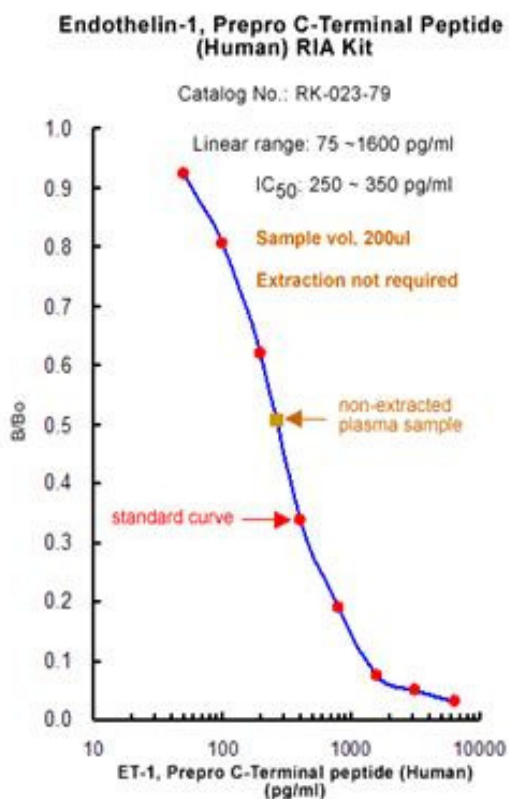
Big Endothelins are the precursors to Endothelins. They are cleaved by Endothelin Converting Enzyme (ECE) to the mature 21 amino acid peptide.

Phoenix offers 2 RIA kits to measure circulating Endothelin that do not require extraction.

Steinhilber, M.E., *Circulation Research* 72, No. 5, 984 (1993)

Maack, T., *Annu. Rev. Physiol.* 54, 11 (1992)

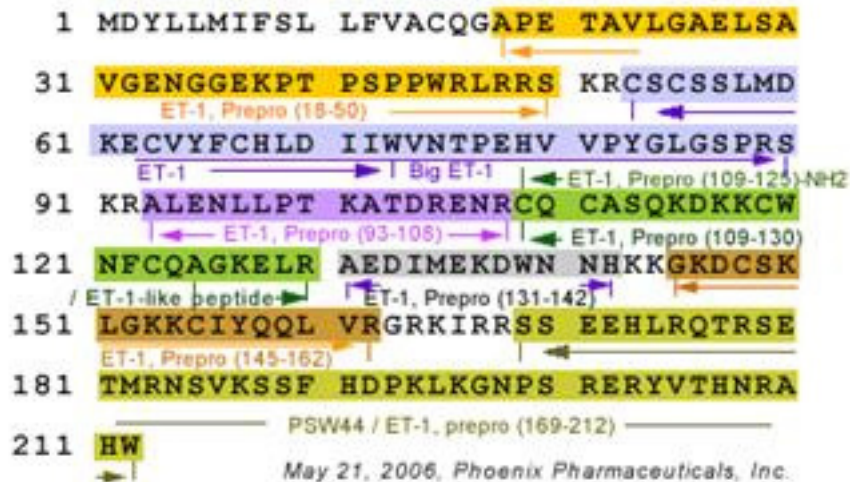
Brenner, B.M. et al., *Physiol. Rev.* 70, 665 (1990)



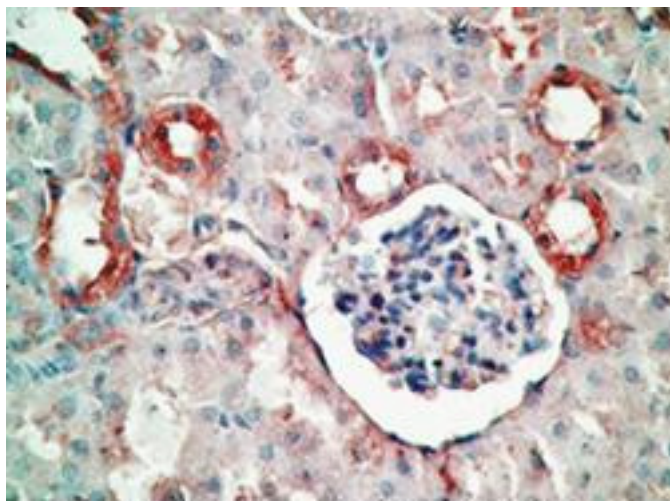
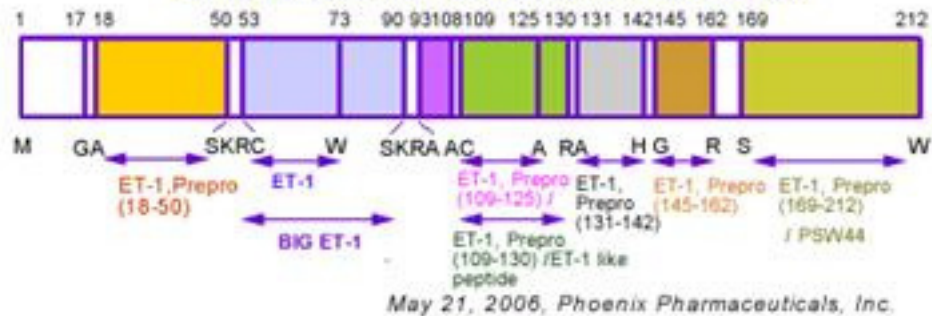
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Amino acid sequence of human Prepro-Endothelin-1

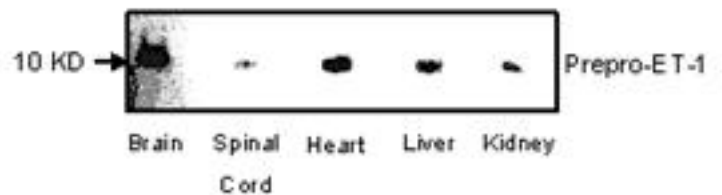


Human Endothelin-1 and Endothelin-like Peptide

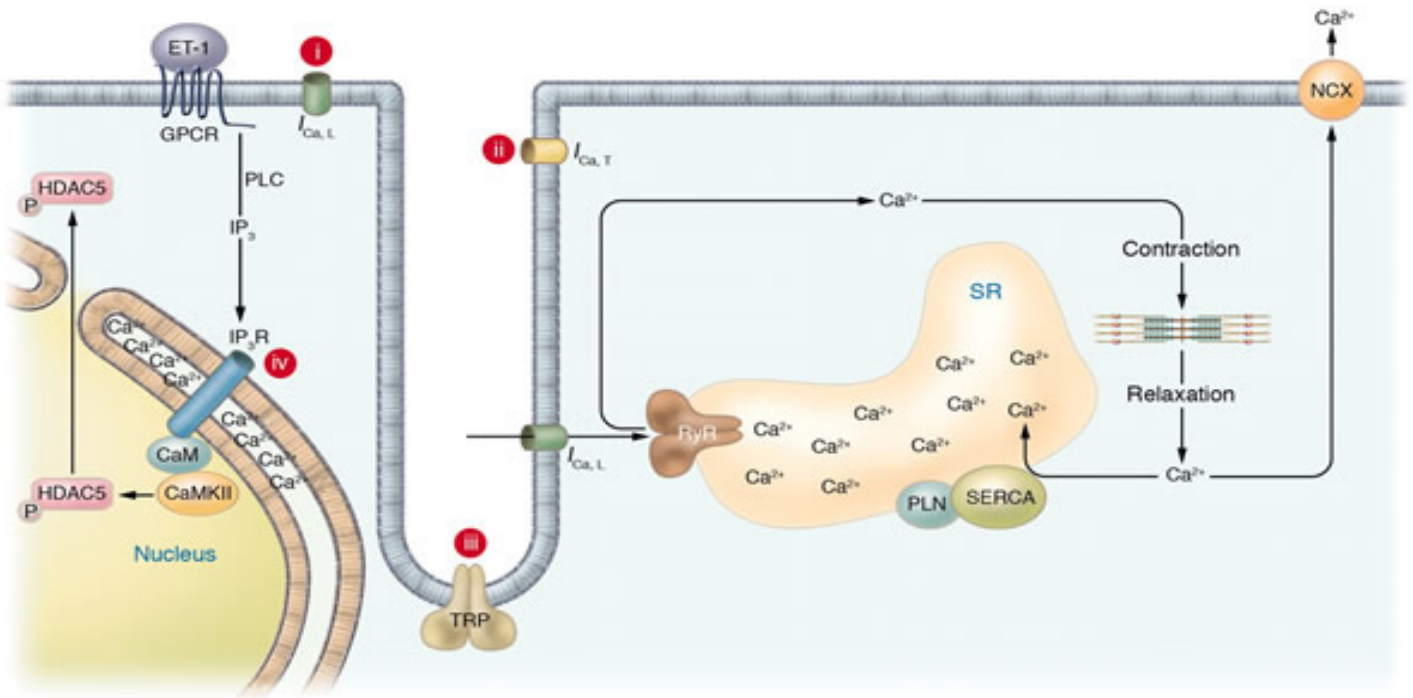


Rat kidney tissue was stained by Rabbit Anti-Endothelin-1, Prepro (109-125) (Human) Serum (catalog No.: H-023-18)

Detection of Prepro-Endothelin-1 by Prepro-ET-1 (18-50) (Human) Western Blot Kit (WBK-023-37)

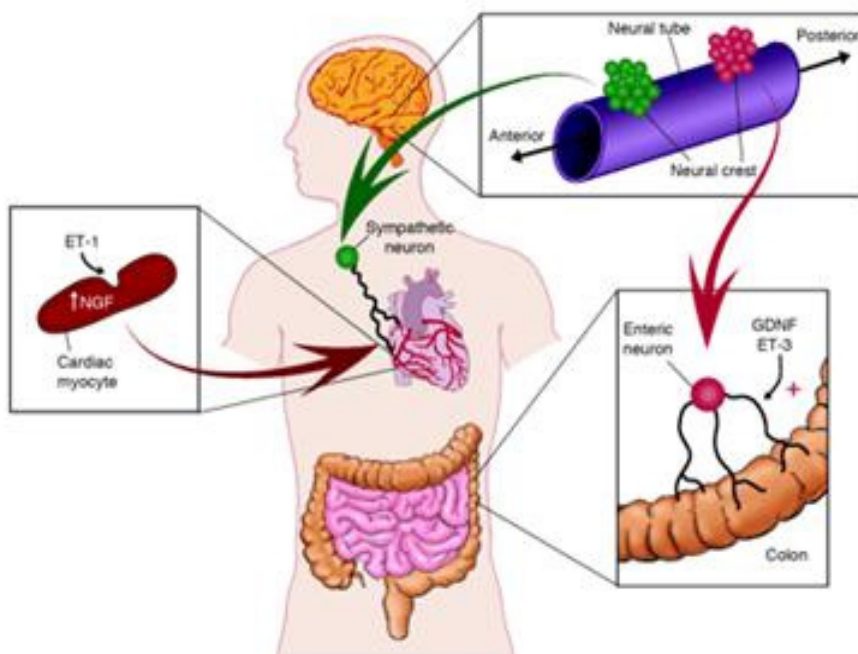


- Anti-Prepro-Endothelin-1 (Human) IgG (1:500)
- Rat tissue homogenate on 15% of Tricine-PAGE gel



Schematic of potential Ca^{2+} sources that might be specialized to regulate reactive signaling pathways in cardiac myocytes. (i) Some L-type Ca^{2+} channels ($\text{I}_{\text{Ca,L}}$) are not associated with the junctional complex and hence could be involved in providing a local Ca^{2+} signal in specific membrane-associated compartments. (ii) T-type Ca^{2+} channels ($\text{I}_{\text{Ca,T}}$) are reexpressed in hypertrophic states where they could provide Ca^{2+} in specific microenvironments associated with the sarcolemma to affect reactive signaling pathways. (iii) Capacitative or store-operated Ca^{2+} entry through transient receptor potential (TRP) channels, alone or in conjunction with (iv) InsP_3 -mediated release of Ca^{2+} from the ER/nuclear envelope, could also provide a highly localized Ca^{2+} pool for controlling reactive signaling pathways in cardiac myocytes. Signaling from G protein-coupled receptors (GPCRs) activate PLC and generates InsP_3 , causing a perinuclear Ca^{2+} signal through the InsP_3 R, resulting in CaM activation and HDAC5 nuclear export, as proposed by Wu et al. (2). IP_3 , InsP_3 ; IP_3 R, InsP_3 R; PLN, phospholamban; NCX, $\text{Na}^+/\text{Ca}^{2+}$ exchanger; RyR, ryanodine receptor; CaM , calmodulin; SERCA, SR/ER Ca^{2+} -ATPase; P, phosphate.

Molkentin, J. D. J. Clin. Invest. 2006;116:623-626



Distinctive pairing of endothelins and neurotrophic factors promotes target innervation during development. Although the sequential action of ET-1 to induce myocyte production of NGF is suggested to promote sympathetic innervation of the heart, more complex interactions of ET-3 and GDNF occur in the patterning of the enteric nervous system.

Barbara L. Hempstead J. Clin. Invest. 113:811-813 (2004)

Catalog Number	Product Name	Standard Size
023-01	Endothelin-1 (ET-1) (Human, Rat, Mouse, Porcine, Bovine, Canine, Rabbit)	100 µg
023-03	Endothelin-1 (ET-1) (169-212), Prepro / PSW44 (Human)	100 µg
023-05	Endothelin-1 (ET-1) (145-162)-Amide, Prepro (Human)	100 µg
023-10	Endothelin-1, Big (Human)	100 µg
023-11	Endothelin-1 like Peptide (109-130)-Amide, Prepro (Human)	100 µg
023-14	Endothelin-1 (ET-1) (131-142), Prepro (Human)	200 µg
023-18	Endothelin-1 (109-125)-Amide, Prepro (Human)	100 µg
023-37	Endothelin-1 (ET-1) (18-50), Prepro (Human)	200 µg
023-41	Endothelin-1 (ET-1) (93-108), Prepro (Human)	200 µg
023-66	Endothelin-1 (ET-1) [Cys0] (168-181), Prepro (Human)	100 µg
023-67	Endothelin-1 (ET-1) [Cys0] (200-212), Prepro (Human)	100 µg
B-023-01	Endothelin-1 (ET-1) (Human, Rat, Mouse, Porcine, Bovine, Canine, Rabbit) - Biotin Labeled	100 µg
B-G-023-01	Endothelin-1 (ET-1) (Human, Rat, Mouse, Porcine, Bovine, Canine) - Biotin Labeled Purified IgG	100 µl
B-G-023-05	Endothelin-1 (ET-1) (145-162)-Amide, Prepro (Human) - Biotin Labeled Purified IgG	100 µl
B-G-023-18	Endothelin-1 (109-125)-Amide, Prepro (Human) - Biotin Labeled Purified IgG	100 µl
EK-023-01	Endothelin-1 (ET-1) (Human, Rat, Mouse, Porcine, Bovine, Canine) - EIA Kit	1 kit
FC3-G-023-05	Endothelin-1 (ET-1) (145-162)-Amide, Prepro (Human) - Cy3 Labeled Purified IgG	100 µl
FC3-G-023-18	Endothelin-1 (109-125)-Amide, Prepro (Human) - Cy3 Labeled Purified IgG	100 µl
FC5-G-023-05	Endothelin-1 (ET-1) (145-162)-Amide, Prepro (Human) - Cy5 Labeled Purified IgG	100 µl
FC5-G-023-18	Endothelin-1 (109-125)-Amide, Prepro (Human) - Cy5 Labeled Purified IgG	100 µl
FEK-023-01	Endothelin-1 (ET-1) (Human, Rat, Mouse, Porcine, Bovine, Canine) - Fluorescent EIA Kit	1 kit
FG-023-01A	Endothelin-1 (ET-1) (Human, Rat, Mouse, Porcine, Bovine, Canine, Rabbit) - FAM Labeled	1 nmol
FG-G-023-05A	Endothelin-1 (ET-1) (145-162)-Amide, Prepro (Human) - FAM Labeled Purified IgG	100 µl
FG-G-023-05B	Endothelin-1 (ET-1) (145-162)-Amide, Prepro (Human) - FITC Labeled Purified IgG	100 µl
FG-G-023-18A	Endothelin-1 (109-125)-Amide, Prepro (Human) - FAM Labeled Purified IgG	100 µl
FG-G-023-18B	Endothelin-1 (109-125)-Amide, Prepro (Human) - FITC Labeled Purified IgG	100 µl
FR-023-01	Endothelin-1 (ET-1) (Human, Rat, Mouse, Porcine, Bovine, Canine, Rabbit) - Rhodamine Labeled	1 nmol
FR-G-023-05	Endothelin-1 (ET-1) (145-162)-Amide, Prepro (Human) - Rhodamine Labeled Purified IgG	100 µl
FR-G-023-18	Endothelin-1 (109-125)-Amide, Prepro (Human) - Rhodamine Labeled Purified IgG	100 µl
G-023-01	Endothelin-1 (ET-1) (Human, Rat, Mouse, Porcine, Bovine, Canine) - Purified IgG Antibody	400 µg
G-023-05	Endothelin-1 (ET-1) (145-162)-Amide, Prepro (Human) - Purified IgG Antibody	200 µg
G-023-10	Endothelin-1, Big (Human) - Purified IgG Antibody	400 µg
G-023-18	Endothelin-1 (109-125)-Amide, Prepro (Human) - Purified IgG Antibody	200 µg
G-023-37	Endothelin-1 (ET-1) (18-50), Prepro (Human) - Purified IgG Antibody	400 µg
H-023-01	Endothelin-1 (ET-1) (Human, Rat, Mouse, Porcine, Bovine, Canine) - Antibody for Immunohistochemistry	50 µl
H-023-05	Endothelin-1 (ET-1) (145-162)-Amide, Prepro (Human) - Antibody for Immunohistochemistry	100 µl
H-023-10	Endothelin-1, Big (Human) - Antibody for Immunohistochemistry	50 µl
H-023-18	Endothelin-1 (109-125)-Amide, Prepro (Human) - Antibody for Immunohistochemistry	100 µl
H-023-37	Endothelin-1 (ET-1) (18-50), Prepro (Human) - Antibody for Immunohistochemistry	50 µl
RK-023-01	Endothelin-1 (ET-1) (Human, Rat, Mouse, Porcine, Bovine, Canine) - RIA Kit	1 kit
RK-023-10	Endothelin-1, Big (Human) - RIA Kit	1 kit
RK-023-37	Endothelin-1 (ET-1) (18-50), Prepro (Human) - RIA Kit	1 kit
RK-023-66	Endothelin-1 [Cys0] (168-181), prepro RIA kit	1 kit
RK-023-79	Endothelin-1, prepro C-terminal RIA kit	1 kit
T-023-01	Endothelin-1 (ET-1) (Human, Rat, Mouse, Porcine, Bovine, Canine, Rabbit) - I-125 Labeled	10 µCi
T-023-10	Endothelin-1, Big (Human) - I-125 Labeled	5 µCi
T-G-023-01	Endothelin-1 (ET-1) (Human, Rat, Mouse, Porcine, Bovine, Canine) - I-125 Labeled Purified IgG	10 µCi
T-G-023-10	Endothelin-1, Big (Human) - I-125 Labeled Purified IgG	10 µCi