CATESTATIN:
HYPERTENSION BIOMARKER

A New Hypertension / Stress / Insomnia / Cancer Biomarker

* **acts as a potent endogenous nicotinic cholinergic antagonist to inhibit catecholamine release.**

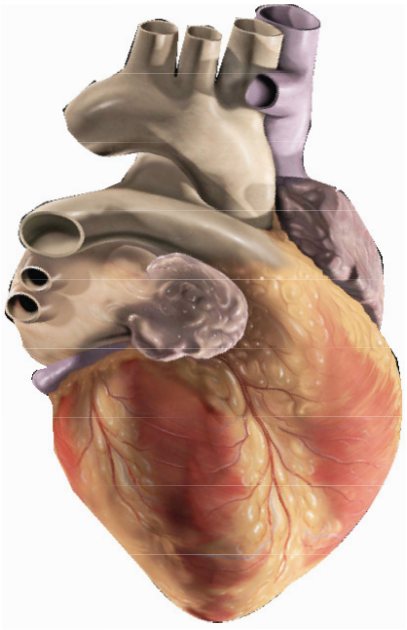
* **induces release of histamine from mast cells.**

* **displays potent antimicrobial activity**

Catestatin is an endogenous peptide hormone that not only reflects tumor activity but also is a stable hypertension biomarker with a high circulating level. Phoenix's kit has a consistent linear range with low variance between kits, and does not require extraction.

Catestatin, or Cts, a fragment of Chromogranin A (Bovine Chromogranin A 344-364), vasodilates by inducing histamine release from mast cells.

Catestatin inhibits catecholamines (e.g. adrenaline), which are associated with stress. This hormone drops significantly in patients with hypertension.



We have a complete library of Catestatin products, including fluorescent and iodinated peptides, kits and antibodies for human, mouse and rat sequences.

References:

1. Mahapatra N (2008). Catestatin is a novel endogenous peptide that regulates cardiac function and blood pressure. Cardiovascular Research. Online: http://cardiovascres.oxfordjournals.org/cgi/content/abstract/cvn155v2

2. Kennedy BP, et al. (1998). Mechanism of cardiovascular actions of the chromogranin A fragment catestatin in vivo. Peptides, vol 19 (7) p.1242-8.

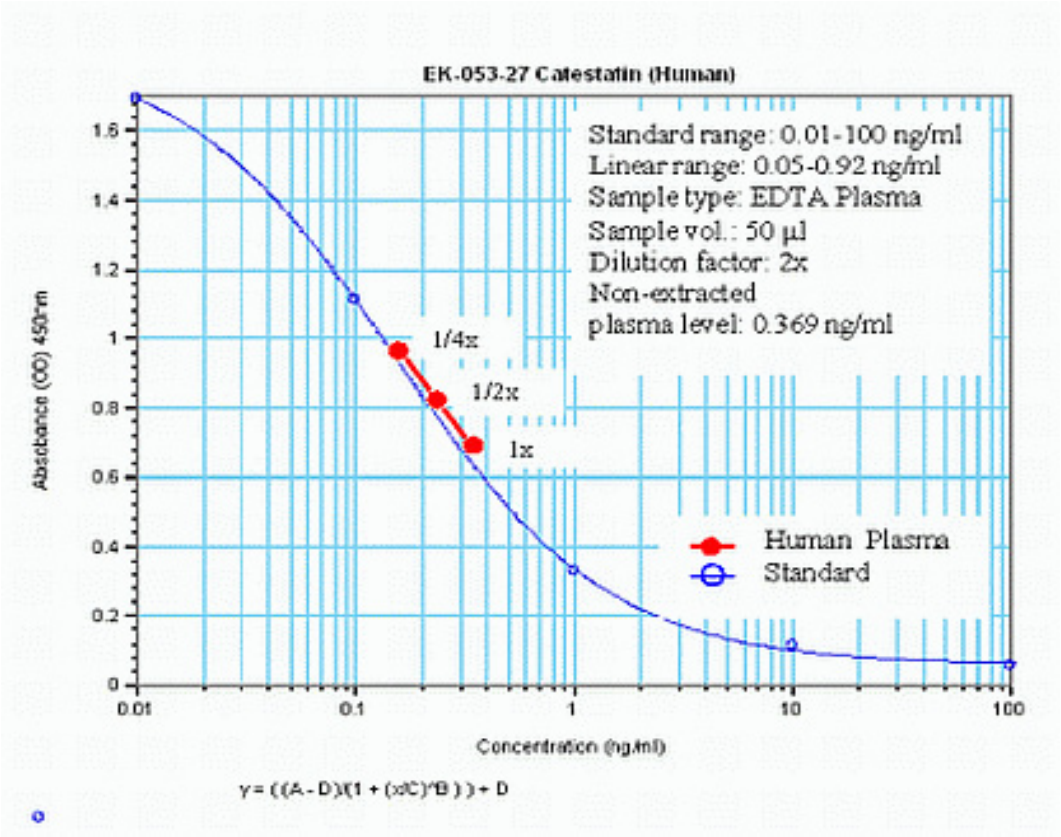
3. Prommegger R, et al. (2004) Catestatin: A novel neuropeptide in carcinoid tumors of the appendix. Anticancer Research, vol. 24, no. 1 p. 311-316.

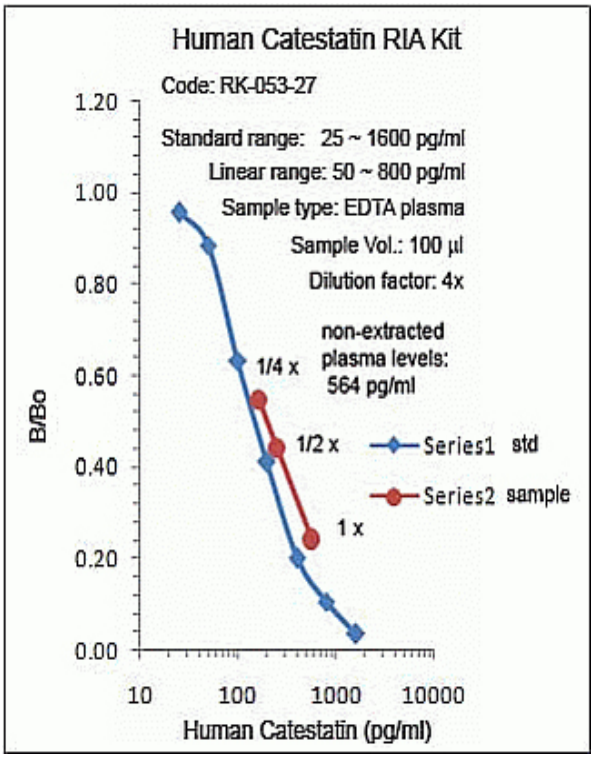
PHOENIX PHARMACEUTICALS, INC.
330 Beach Rd, Burlingame, CA, 94010, USA
PHONE (650) 558 8898 EMAIL info@phoenixpeptide.com
WWW.PHOENIXPEPTIDE.COM

PHOENIX EUROPE GmbH
VISTORIASTR. 3 S. D 76133 KARLSRUHE, GERMANY
PHONE +49 721 1611950 EMAIL germany@phoenixpeptide.com
WWW.PHOENIXPEPTIDE.COM

Relationship of CHGA-mediated dense-core secretory granule (DCG) biogenesis, catecholamine (CA) secretion, and its subsequent inhibition by the CHGA-derived peptide catestatin in the maintenance of blood pressure by the adrenal gland. CHGA, as a full-length molecule, initiates dense-core secretory granule biogenesis at the trans-Golgi network of adrenal chromaffin cells. Current data suggests that CHGA enhances granule biogenesis by preventing posttranslational degradation of other granule proteins in the Golgi complex. In the cytoplasm, catecholamine is synthesized and transported into the dense-core secretory granules via vesicular monoamine transporters. Upon stimulation by acetylcholine (Ach), catecholamine is coreleased with CHGA and catestatin from the granules. Secreted catecholamine triggers cardiovascular target cells to augment blood flow. This sympathoadrenal activity is then antagonized by the action of catestatin on cholinergic receptors to inhibit catecholamine secretion. [Ca2+]i, intracellular calcium concentration.

Taeyoon Kim and Y. Peng Loh. J. Clin. Invest. 115:1711-1713 (2005)





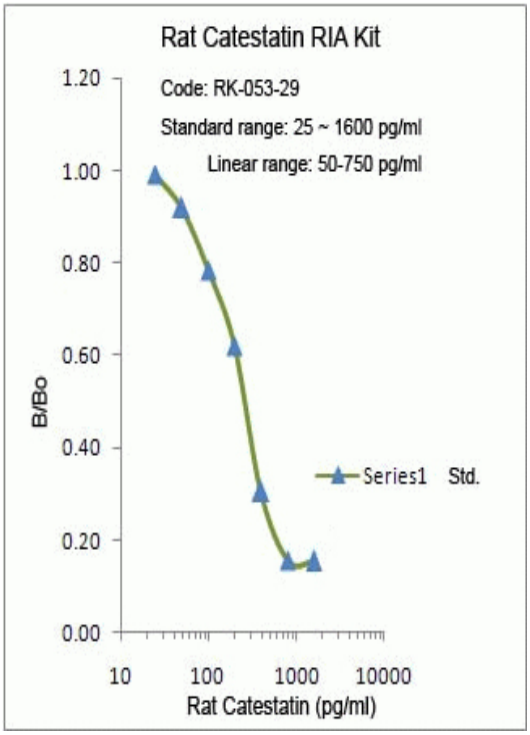
Specificity of Human Catestatin RIA Kit

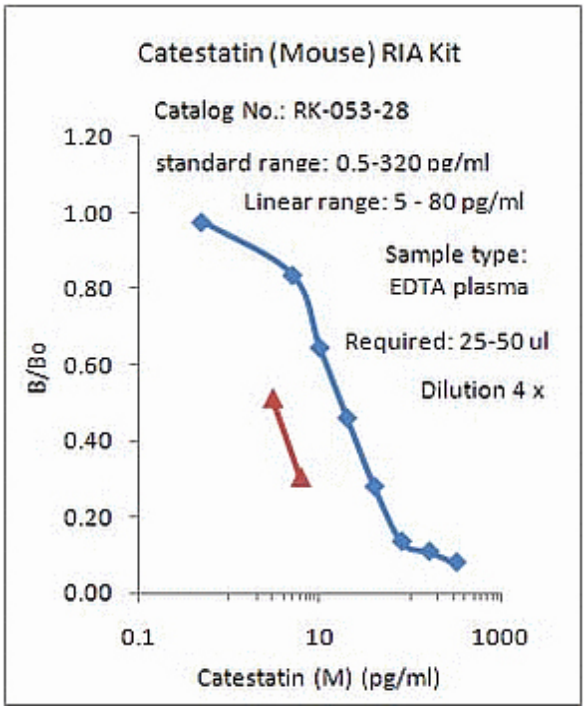
Peptide Name	Cross-reactivity (%)
Catestatin (H)#	100
Catestatin (R)#	100
Chromorganin A (342-355) (H)*	0
Vasostatin II (H)*	0
Vasostatin (I) (17-76) (H)*	0
Vasostatin I (H)*	0
Chromorganin A (374-388) (M)*	0

* Listed peptide at 25.6 µg/ml indicates crossreactivity

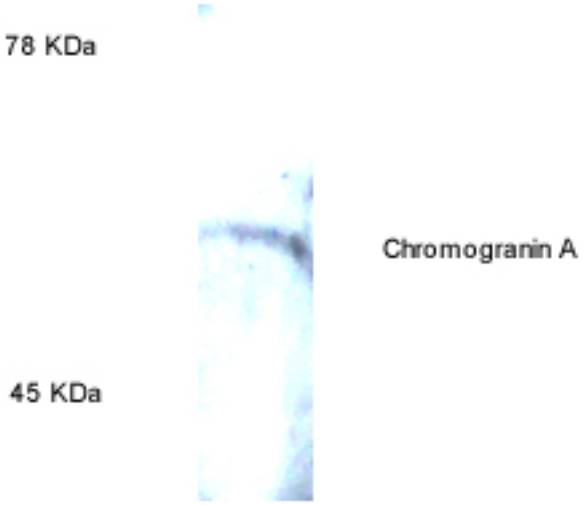
\# listed peptide at 1600 pg/ml indicates crossreactivity

Phoenix Pharmaceuticals



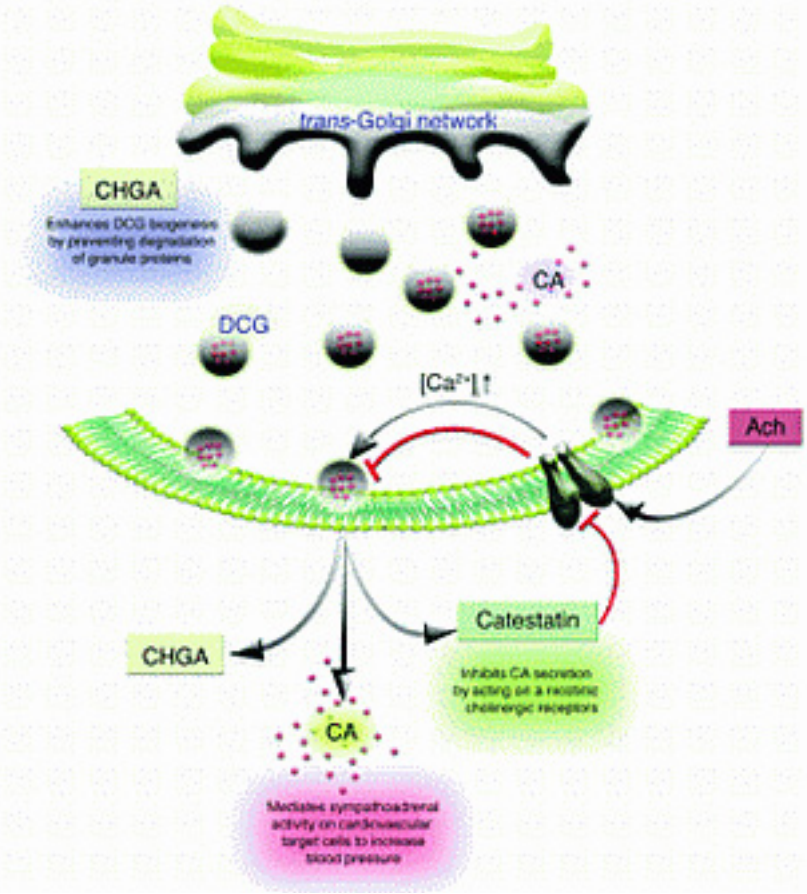


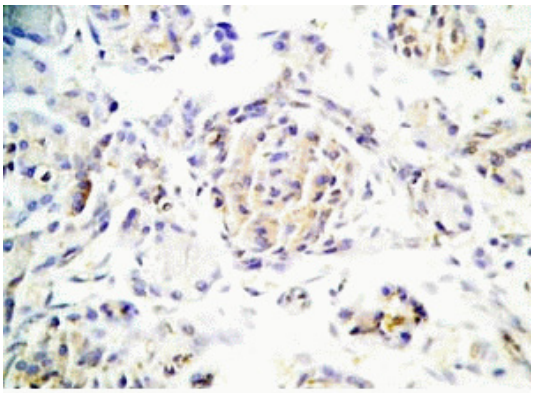
Western blot analysis of Chromogranin A in rat kidney tissue by Anti-Catestatin (H) Serum



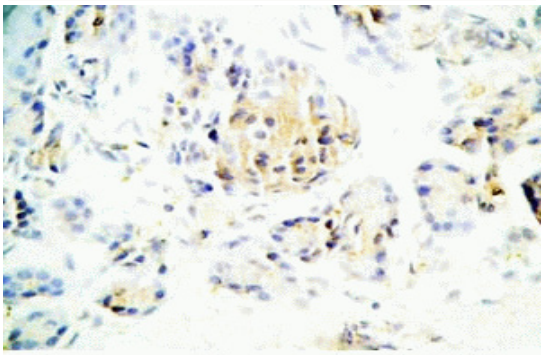
Kidney tissue homogenate was run on 10% SDS-PAGE Gel (reduce condition)

Rabbit Anti-Catestatin (H) Serum (catalog No.: H-053-27)

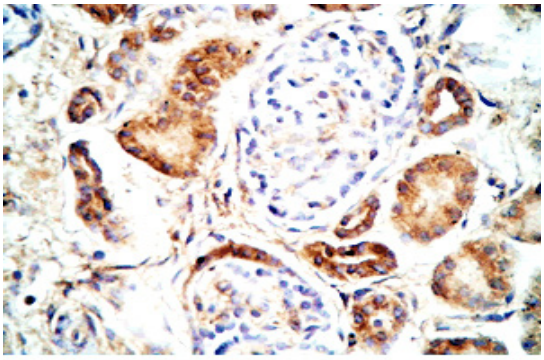




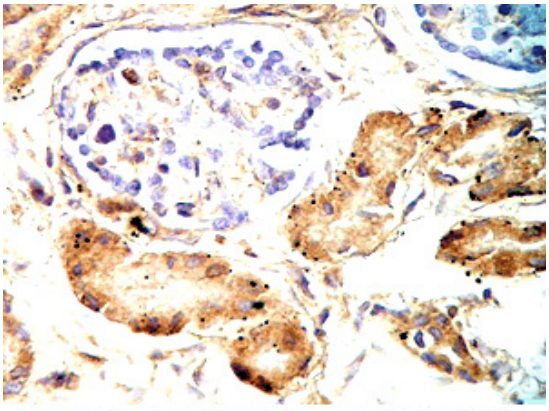
Human pancreas tissue was stained by Rabbit Anti-Catestatin (Mouse) Antibody (catalog No.: H-053-28)



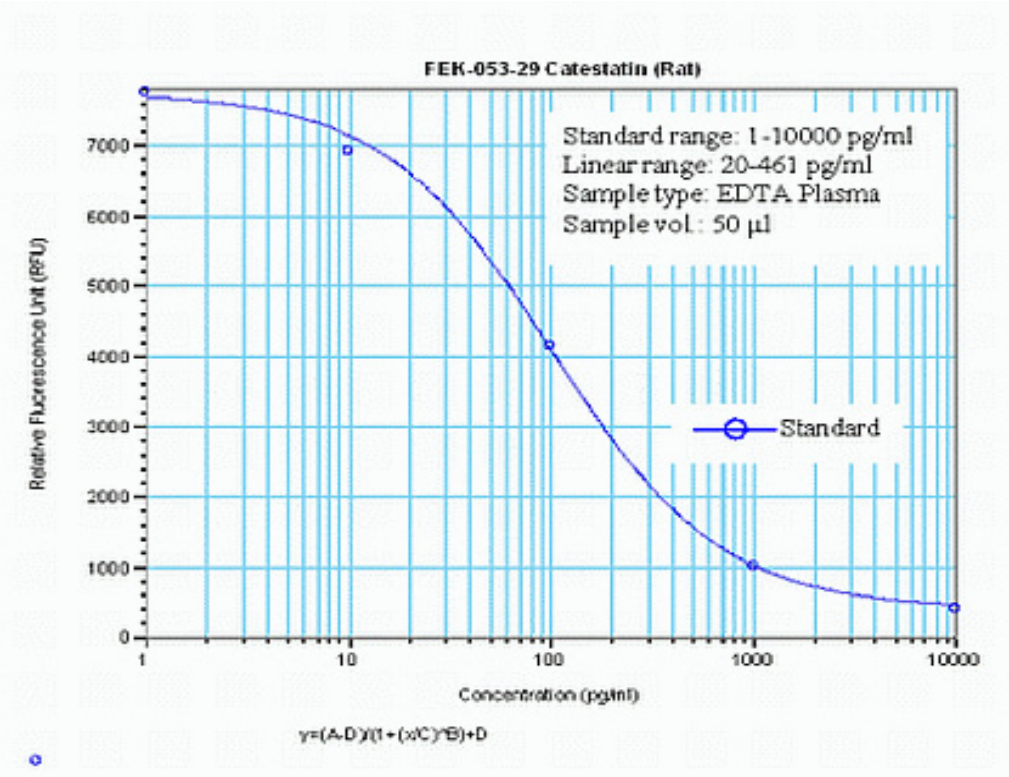
Human pancreas tissue was stained by Rabbit Anti-Catestatin (Human) Antibody (Catalog No.: H-053-27)

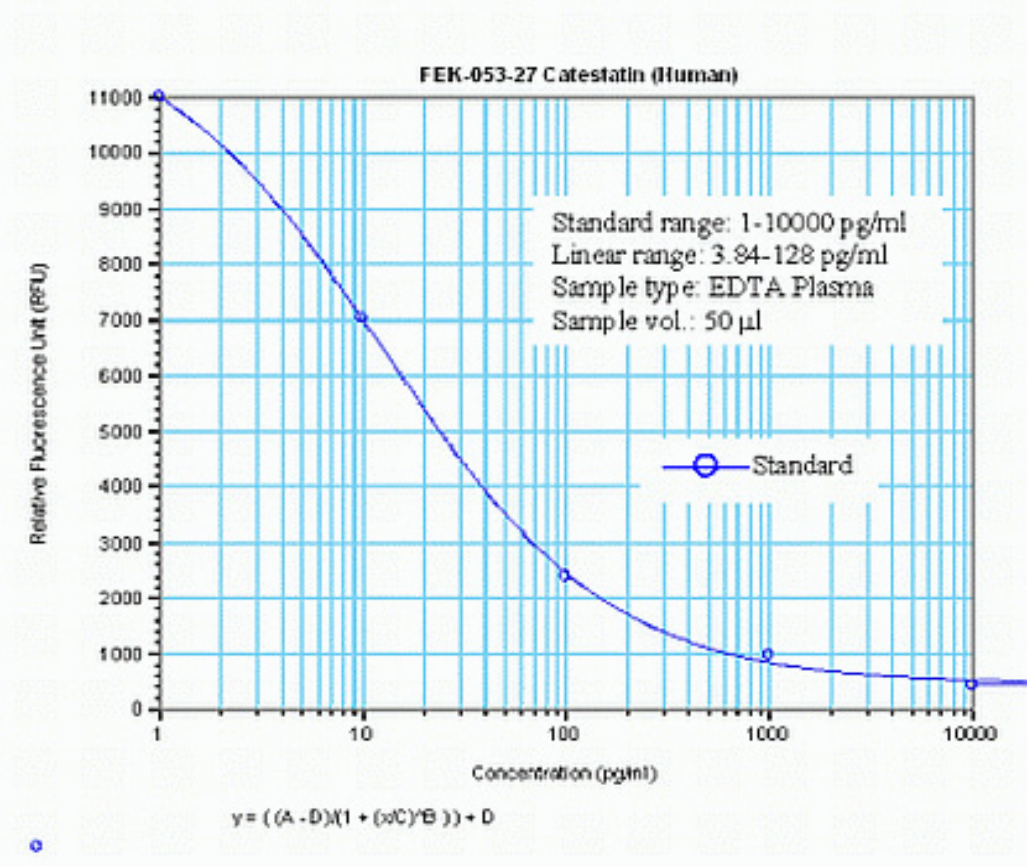


Human adrenal medullary tissue was stained by Rabbit Anti-Catestatin (Rat) Antibody (catalog No.: H-053-29)



Human adrenal medullary tissue was stained by Rabbit Anti-Catestatin (Human) Antibody (catalog No.: H-053-27)


FEK-053-29 Catestatin (Rat)
Standard range: 1-10000 pg/ml
Linear range: 20-461 pg/ml
Sample type: EDTA Plasma
Sample vol.: 50 µl
Standard
Relative Fluorescence Unit (RFU)
Concentration (pg/ml)
y=(A-D)/(1+(x/C)^B)+D


FEK-053-27 Catestatin (Human)
Standard range: 1-10000 pg/ml
Linear range: 3.84-128 pg/ml
Sample type: EDTA Plasma
Sample vol.: 50 µl
Standard
Relative Fluorescence Unit (RFU)
Concentration (pg/ml)
y = ((A - D)/(1 + (x/C)^B)) + D

Catalog Number	Description	Std. Size
053-27	Catestatin (Human)	200 µg
053-28	Catestatin (Mouse)	200 µg
053-29	Catestatin (Rat)	200 µg
B-053-27	Catestatin (Human) - Biotin Labeled	10 µg
B-053-28	Catestatin (Mouse) - Biotin Labeled	10 µg
B-053-29	Catestatin (Rat) - Biotin Labeled	10 µg
B-G-053-27	Catestatin (Human) - Biotin Labeled Purified IgG	100 µl
B-G-053-28	Catestatin (Mouse) - Biotin labeled purified IgG	100 µl
B-G-053-29	Catestatin (Rat) - Biotin labeled purified IgG	100 µl
EK-053-27	Catestatin (Human)	1 kit
EK-053-29	Catestatin (Rat)	1 kit
FC3-053-27	Catestatin (Human) - Cy3 Labeled	1 nmol
FC3-053-28	Catestatin (Mouse) - Cy3 Labeled	1 nmol
FC3-053-29	Catestatin (Rat) - Cy3 Labeled	1 nmol
FC3-G-053-27	Catestatin (Human) - Cy3 Labeled Purified IgG	100 µl
FC3-G-053-28	Catestatin (Mouse) - Cy3 Labeled Purified IgG	100 µl
FC3-G-053-29	Catestatin (Rat) - Cy3 Labeled Purified IgG	100 µl
FC5-053-27	Catestatin (Human) - Cy5 Labeled	1 nmol
FC5-053-28	Catestatin (Mouse) - Cy5 Labeled	1 nmol
FC5-053-29	Catestatin (Rat) - Cy5 Labeled	1 nmol
FC5-G-053-27	Catestatin (Human) - Cy5 Labeled Purified IgG	100 µl
FC5-G-053-28	Catestatin (Mouse) - Cy5 Labeled Purified IgG	100 µl
FC5-G-053-29	Catestatin (Rat) - Cy5 Labeled Purified IgG	100 µl
FEK-053-27	Catestatin (Human)	1 kit
FEK-053-29	Catestatin (Rat)	1 Kit
FG-053-27A	Catestatin (Human) - FAM Labeled	1 nmol
FG-053-27B	Catestatin (Human) - FITC Labeled	1 nmol
FG-053-28A	Catestatin (Mouse) - FAM Labeled	1 nmol
FG-053-28B	Catestatin (Mouse) - FITC Labeled	1 nmol
FG-053-29A	Catestatin (Rat) - FAM Labeled	1 nmol
FG-053-29B	Catestatin (Rat) - FITC Labeled	1 nmol
FG-G-053-27A	Catestatin (Human) - FAM Labeled Purified IgG	100 µl
FG-G-053-27B	Catestatin (Human) - FITC Labeled Purified IgG	100 µl
FG-G-053-28A	Catestatin (Mouse) - FAM Labeled Purified IgG	100 µl
FG-G-053-28B	Catestatin (Mouse) - FITC Labeled Purified IgG	100 µl
FG-G-053-29A	Catestatin (Rat) - FAM Labeled Purified IgG	100 µl
FG-G-053-29B	Catestatin (Rat) - FAM Labeled Purified IgG	100 µl
FR-G-053-27	Catestatin (Human) - Rhodamine Labeled Purified IgG	100 µl
FR-G-053-28	Catestatin (Mouse) - Rhodamine Labeled Purified IgG	100 µl
FR-G-053-29	Catestatin (Rat) - Rhodamine Labeled Purified IgG	100 µl
G-053-27	Catestatin (Human) - Purified IgG Antibody	100 µg
G-053-28	Catestatin (Mouse) - Purified IgG Antibody	100 µg
G-053-29	Catestatin (Rat) - Purified IgG Antibody	100 µg
H-053-27	Catestatin (Human) - Antibody for Western Blot	100 µl
H-053-28	Catestatin (Mouse) - Antiserum for Immunohistochemistry	100 ul
H-053-29	Catestatin (Rat) - Antiserum for Immunohistochemistry	100 µl
RK-053-27	Catestatin (Human) RIA Kit	1 kit
RK-053-28	Catestatin (Mouse) RIA Kit	1 kit
T-053-27	Catestatin (Human) - I-125 Labeled	10 µCi
T-053-28	Catestatin (Mouse) - I-125 Labeled	10 µCi
T-053-29	Catestatin (Rat) - I-125 Labeled	10 µCi