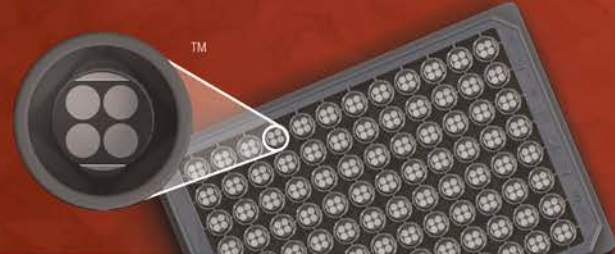


# MSD<sup>®</sup> Rat NT-proANP Kit

For quantitative determination in rat serum and plasma



Alzheimer's Disease  
BioProcess  
Cardiac  
Cell Signaling  
Clinical Immunology  
Cytokines  
Growth Factors  
Hypoxia  
Immunogenicity  
Inflammation  
Metabolic  
Oncology  
**Toxicology**  
Vascular

## Catalog Numbers

Rat NT-proANP Kit	
Kit size	
1 plate	K153MBD-1
5 plates	K153MBD-2
25 plates	K153MBD-4

## Ordering information

MSD Customer Service  
Phone: 1-301-947-2085  
Fax: 1-301-990-2776  
Email: CustomerService@mesoscale.com

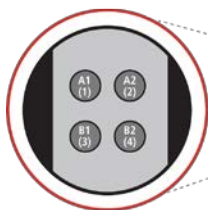
## Company Address

MESO SCALE DISCOVERY<sup>®</sup>  
division of  
Meso Scale Diagnostics, LLC.  
9238 Gaither Road  
Gaithersburg, MD 20877 USA

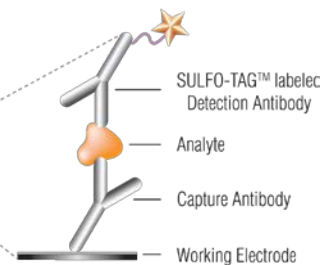
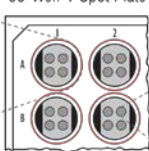
[www.mesoscale.com](http://www.mesoscale.com)<sup>®</sup>

For Research Use Only.  
Not for use in diagnostic  
procedures.

1. NT-proANP
2. BSA Blocked
3. BSA Blocked
4. BSA Blocked



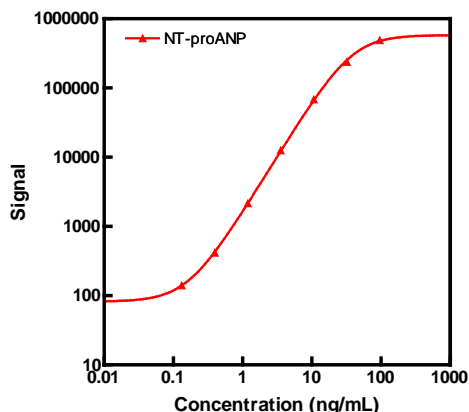
MSD MULTI-SPOT<sup>®</sup>  
96-Well 4-Spot Plate



Natriuretic peptides have been identified as potential biomarkers for cardiac injury that precedes heart failure through their role in vasodilation, anti-inflammation, and natriuresis. Measurement of these biomarkers in animal models presents possible solutions for screening, diagnosis, prognosis, and therapeutic management of cardiovascular disease. The Rat NT-proANP Kit provides assay-specific components for the quantitative determination of endogenous N-terminal proatrial natriuretic peptide (NT-proANP) in rat serum, plasma, and cell culture supernatant. The assay is optimized for sensitivity, specificity, spike recovery, dilution linearity, precision, accuracy, robustness, and sample handling. The assay is available on 96-well 4-spot plates. Representative data from assay development are presented below. Visit [www.mesoscale.com](http://www.mesoscale.com) for a complete listing of our products.

## Assay Sensitivity

The following standard curve illustrates the wide dynamic range of the Rat NT-proANP assay.



Average LLOD (ng/mL)	NT-proANP
	0.099

The lower limit of detection (LLOD) is a calculated concentration based on a signal 2.5 standard deviations above the background (zero calibrator blank). The LLOD shown above was calculated based on 30 runs.

## Specificity

MSD Rat NT-proANP assay detects NT-proANP only and does not show any cross-reactivity with NT-proBNP.

## MSD Advantage

- **Multiplexing:** Multiple analytes can be measured in one well using typical sample volumes of 25  $\mu$ L or less without compromising speed or performance
- **Large dynamic range:** Linear range of up to five logs enables the measurement of native levels of biomarkers in normal and diseased samples without multiple dilutions
- **Minimal background:** The stimulation mechanism (electricity) is decoupled from the signal (light)
- **Simple protocols:** Only labels near the electrode surface are detected, enabling assays with fewer washes
- **Flexibility:** Labels are stable, non-radioactive, and conveniently conjugated to biological molecules
- **High sensitivity and precision:** Multiple excitation cycles of each label enhance light levels and improve sensitivity

# MSD Toxicology Assays

## Spike Recovery

Normal rat serum and EDTA plasma samples were diluted 4-fold, spiked with calibrators at multiple levels throughout the range of the assay and spiked samples were further diluted 4-fold before testing. The average percent recovery shown below was calculated from samples with values above the LLOD. % Recovery=measured/expected\*100

Sample Type	NT-proANP		
	Spike Conc. (ng/mL)	Average % Recovery	% Range
Serum (N=4)	0.247	97	96–99
	0.741	90	78–96
	2.22	94	87–104
	6.67	88	77–99
	20.0	83	78–91
EDTA Plasma (N=6)	0.247	95	91–101
	0.741	94	88–101
	2.22	94	86–102
	6.67	90	83–100
	20.0	82	76–90

## Tested Samples

Serum and EDTA plasma samples were collected from normal Sprague-Dawley rats, diluted 4-fold, and tested with the Rat NT-proANP assay. Median and range of concentrations for each sample set are displayed below. Concentrations are corrected for sample dilution.

Sample Type	Statistic	NT-proANP
Serum	Median (ng/mL)	15.1
	Range (ng/mL)	3.89–21.3
	Number of Samples	15
EDTA Plasma	Median (ng/mL)	15.7
	Range (ng/mL)	10.1–39.0
	Number of Samples	27

## Precision

EDTA plasma-based samples with high, mid, and low levels of analytes were measured using a minimum of 2 replicates on 9 runs over 3 days. Average intra-run %CV is the average %CV of the control replicates on an individual run. Inter-run %CV is the variability of controls across 9 runs.

	Control	Runs	Average Conc. (ng/mL)	Average Intra-run %CV	Inter-run %CV
NT-proANP	High	9	78	15.3	3.4
	Mid	9	9.8	4.7	2.8
	Low	9	0.86	6.2	2.7

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