

# Angiotensin II ELISA kit

## Angiotensin II ELISA kit #A05880

- The most sensitive ELISA on the market
- Very low cross-reaction with other angiotensin peptides
- Unique Sandwich Format



Angiotensin peptides are key players in the physiopathology of essential Hypertension.

They are part of the Renin-Angiotensin System (RAS) which are key targets in hypertension drug management.

Angiotensinogen (452 amino acids) is produced by the liver and cleaved mainly by Renin to release a deca-peptide in Angiotensin I (Ang I DRVYIHPFHL). Ang I has no known biological function but is cleaved by Angiotensin Converting Enzyme (ACE) in Angiotensin II by removal of 2 amino acids (Ang II DRVYIHPF) which is a vasoconstrictor and responsible for Aldosterone release in blood circulation. All those effects have a direct impact on blood pressure and hypertension.

Other peptides are formed, some of which like Angiotensin III, by the removal of an extra amino acid (RVYIHPF) making the specific detection of Ang II challenging when using antibodies. Angiotensin III is also able like Ang II to bind to some Angiotensin receptors, and thus specific detection of Ang II is important. The physiological concentration of those very active peptides is in the picomolar range, as they are rapidly metabolized in normal conditions to prevent hypertension.

### FOCUS ON THE ASSAY

The principle of this Enzyme ImmunoAssay (EIA) is summarized on the following page: a specific monoclonal anti-Angiotensin II is immobilized on a 96-well plate.

After immunological reaction with Angiotensin II and washing, the trapped molecule is covalently linked to the plate by glutaraldehyde via amino groups. After washing and denaturing treatment, Angiotensin II can react again with the acetylcholinesterase-labeled mAb used as a tracer.

The plate is then washed and Ellman's reagent (enzymatic substrate for AChE and chromogen) is added to the wells.

The AChE tracer acts on the Ellman's reagent to form a yellow compound.

Angiotensin peptides are very small, and it's unlikely to find two antibodies for different epitopes or does not have steric overlap. This is why most of the kits on the market are competitive ELISA.

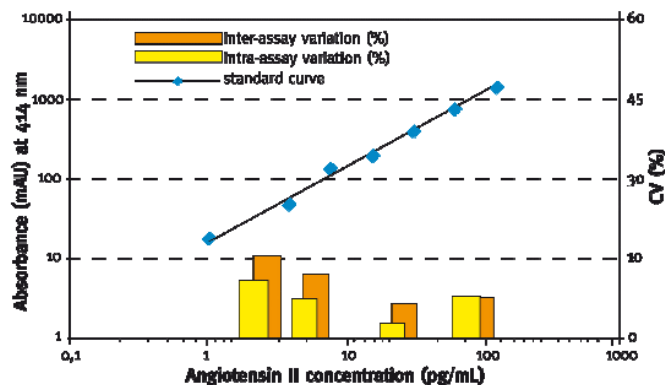
Here, our technology allows us to use the same antibody for capture and detection after an extra step. This leads to the most sensitive kit on the market. Furthermore, when you look for the cross-reaction with the related Angiotensin Peptides, we report the lowest cross-reactivity with Angiotensin related peptides.

Furthermore, the kit comes with a quality control (QC) to check the kits performed according to expectations.

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## TECHNICAL DATA

- **Format:** SPIE-IA
- **Stability:** 2 years
- **Storage:** -20°C
- **Shipping:** Dry ice
- **Size:** 96 wells
- **Tracer label:** AChE ®
- **Sample volum:** 100µL
- **Limit of detection:** 1pg/mL
- **Standard curve range:** 1-125
- **Media application:** Plasma sample, Cell Culture Supernatant
- **Preanalytical phase:** Collect on Protease Inhibitor Cocktail, extraction on Phenyl Cartridge



▪ AcSDOP	500%	▪ Angiotensin 3-8	33%
▪ Angiotensin II	100%	▪ Angiotensin I	4%
▪ Mammalian angiotensin II	100%	▪ Angiotensin 1-7	<0.01%
▪ Angiotensin III	36 %		

## REFERENCES

- **Efrati S, Berman S, Hamad RA, Siman-Tov Y, Ilgiyaev E, Maslyakov I, Weissgarten J.** Effect of captopril treatment on recuperation from ischemia/reperfusion-induced acute renal injury.
- **Nephrol Dial Transplant.** 2012 Jan;27(1):136-45 **Hammerschmidt S., Kuhn H., Grasenack T., Gessner C., and Wirtz H.** Apoptosis and Necrosis Induced by Cyclic Mechanical Stretching in Alveolar Type II Cells. American Journal of respiratory cell and molecular biology, vol. 30, 2004

## RELATED PRODUCT

- **Rat Atriopeptin ELISA kit** cat #A05103
- **Angiotensin II inhibitor cocktail** cat #D05506
- **Angiotensin I ELISA kit** cat #A05882
- **Phenyl cartridge 500mg/3mL** cat #D30004
- **Angiotensin II EIA kit** cat #A05880