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Product Manual

# OxiSelect™ Human KIM-1 Lateral Flow Detection Kit

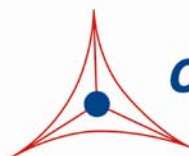
Catalog Number

STA-370

10 assays

**FOR RESEARCH USE ONLY**  
**Not for use in diagnostic procedures**

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*Creating Solutions for Life Science Research*

## **Introduction**

Kidney Injury Molecule-1 (KIM-1) is a type I trans-membrane structural glycoprotein located in the renal proximal tubule epithelial cells. These cells undergo regeneration after various forms of injury, and shed KIM-1 antigen into the urine. Thus the soluble form of urinary KIM-1 is an early and specific biomarker for tubular kidney injury. KIM-1 has become widely recognized as an excellent tool in pre-clinical studies to monitor acute kidney tubular toxicity, by identifying adverse reactive drugs and therapeutic agents in drug development. Kidney injury caused by therapeutic agents and drug induction is a common type of injury requiring appropriate monitoring and intervention. Current standards using blood urea nitrogen and creatinine are considered late indicators of kidney injury and are often non-specific. KIM-1 has been shown to outperform traditional biomarkers of kidney injury in preclinical biomarker studies. The detection of KIM-1 can occur in as little as six hours post injection of an agent known to cause kidney injury. KIM-1 has been recently observed to associate with spatial expression of inducible nitric oxide synthase (iNOS) and nitrotyrosine.

The OxiSelect™ Human KIM-1 Lateral Flow Detection Kit is a rapid 15-minute strip test for qualitative and semi-quantitative detection of KIM-1 in human urine.

## **Related Products**

1. STA-372: OxiSelect™ Rat Kim-1 Lateral Flow Detection Kit
2. STA-374: OxiSelect™ Human KIM-1 ELISA Kit
3. STA-376: OxiSelect™ Rat Kim-1 ELISA Kit

## **Kit Components**

1. Human KIM-1 Lateral Flow Cassettes (Part No. 237001): 10 cassettes, individually pouched
2. Sample Diluent Buffer (Part No. 237002): One 1 mL tube

## **Materials Not Supplied**

1. Human urine samples
2. Lateral flow test reader (optional)

## **Storage**

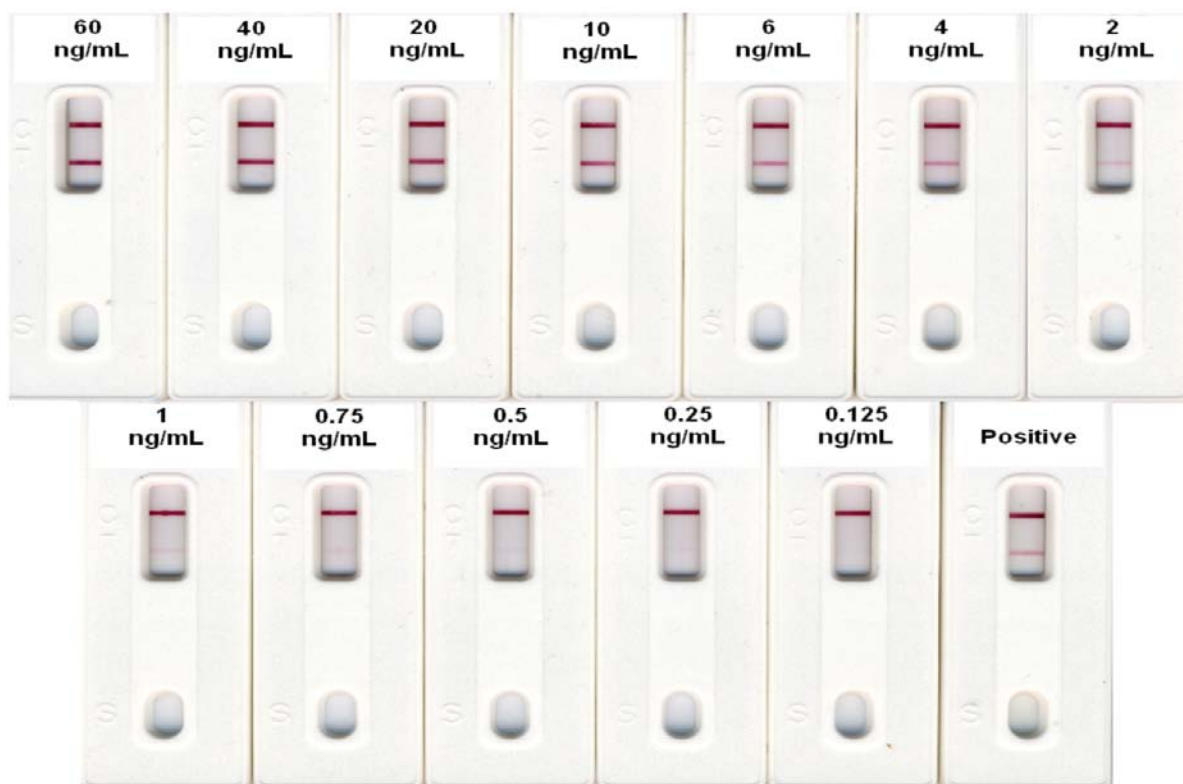
Store kit components at room temperature until their expiration dates. Keep cassettes sealed until you are ready to perform the assay.

## **Preparation of Samples**

This kit is designed for use with human urine only. Samples that have been chemically or heat-inactivated, or frozen and thawed multiple times, may not give accurate results. Allow refrigerated samples to reach room temperature before testing.

## Assay Protocol

1. Allow all kit components to reach room temperature. Remove cassette from pouch.
2. Add 75  $\mu$ L of Sample Diluent Buffer to a clean 12 x 75 mm polystyrene or glass tube.  
*Note: DO NOT USE polypropylene tubes including standard microcentrifuge tubes.*
3. Add 75  $\mu$ L of undiluted human urine to the Sample Diluent Buffer. Vortex to mix.
4. Transfer 100  $\mu$ L of the diluted sample to the sample well of the cassette.
5. Incubate for 15 minutes. Read results immediately and visually compare cassette with the chart below. An optional lateral flow test reader may be used for more quantitative results.



**Figure 1: Color comparison chart for OxiSelect™ Human KIM-1 Lateral Flow Detection Kit.**

## References

1. Vaidya, V.S. et al. (2010). *Nature Biotechnology* **28**, 478-485.
2. Vaidya, V.S. et al. (2009). *Kidney International* **76**, 108-114.
3. Zhang, J. et al. (2009). *Toxicologic Pathology* **37**, 629-643.

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