

# Now you have the Key to Saving Time, Labor, and Research Costs



*Introducing Crystal Chem's newest cutting edge ELISA kits:*

## **Ultra Sensitive Mouse Insulin ELISA Kit**

- High and Low insulin assay – using the same kit
- Includes mouse insulin standard
- Small sample volume – only 5 $\mu$ l (serum, plasma or fluid)
- High sensitivity using 5 $\mu$ l sample
- Same day assay

## **Rat Leptin ELISA Kit**

- Includes rat leptin standard
- Small sample volume – only 5 $\mu$ l (serum, plasma or fluid)
- High sensitivity using 5 $\mu$ l sample
- Pretreatment of sample not required



**All our ELISA kits offer these important advantages**

- High sensitivity
- 5 $\mu$ l sample volume
- Excellent accuracy and precision

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**CRYSTAL CHEM INC.**

# Ultra Sensitive Mouse Insulin ELISA Kit

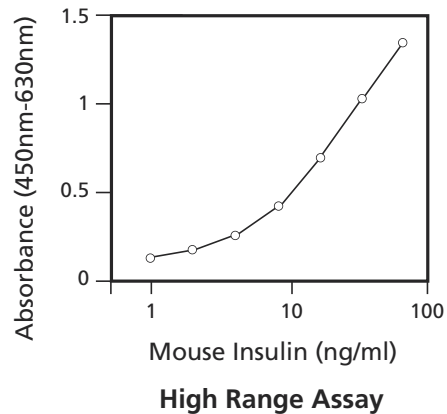
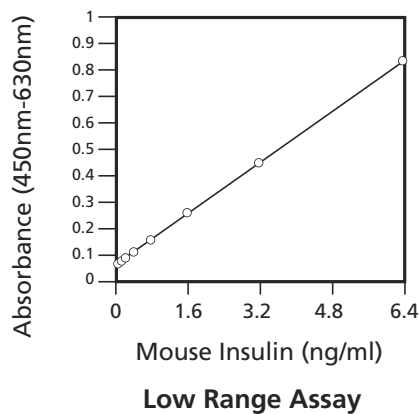
- Sample Size:** 5 $\mu$ l
- Samples:** Serum, plasma or fluid
- Tests:** 96 wells (8 wells x 12 modules)
- Reagents:** In liquid form (except standard)
- Assay Range:** Low Range Assay: 0.1 – 6.4 ng/ml  
Wide Range Assay: 0.1 – 12.8 ng/ml\*  
High Range Assay: 1 – 64 ng/ml
- \* Intended for screening purposes.
- Assay Time:** Same day procedure
- Precision:** Intra-assay precision CV  $\leq$  10.0%  
Inter-assay precision CV  $\leq$  10.0%
- Recovery:** When mouse insulin was spiked into mouse serum, the recovery of mouse insulin was 100% $\pm$ 15%

**Specificity:**

Substance	Reactivity
Mouse insulin	100%
Rat insulin	100%*
Rat C-peptide	Not detected
Rat pancreatic polypeptide	Not detected
Porcine glucagons	Not detected
Human insulin like growth factor-I	Not detected
Human insulin like growth factor-II	Not detected

\* Can vary from lot to lot. Specific cross-reactivity data is included with each kit.

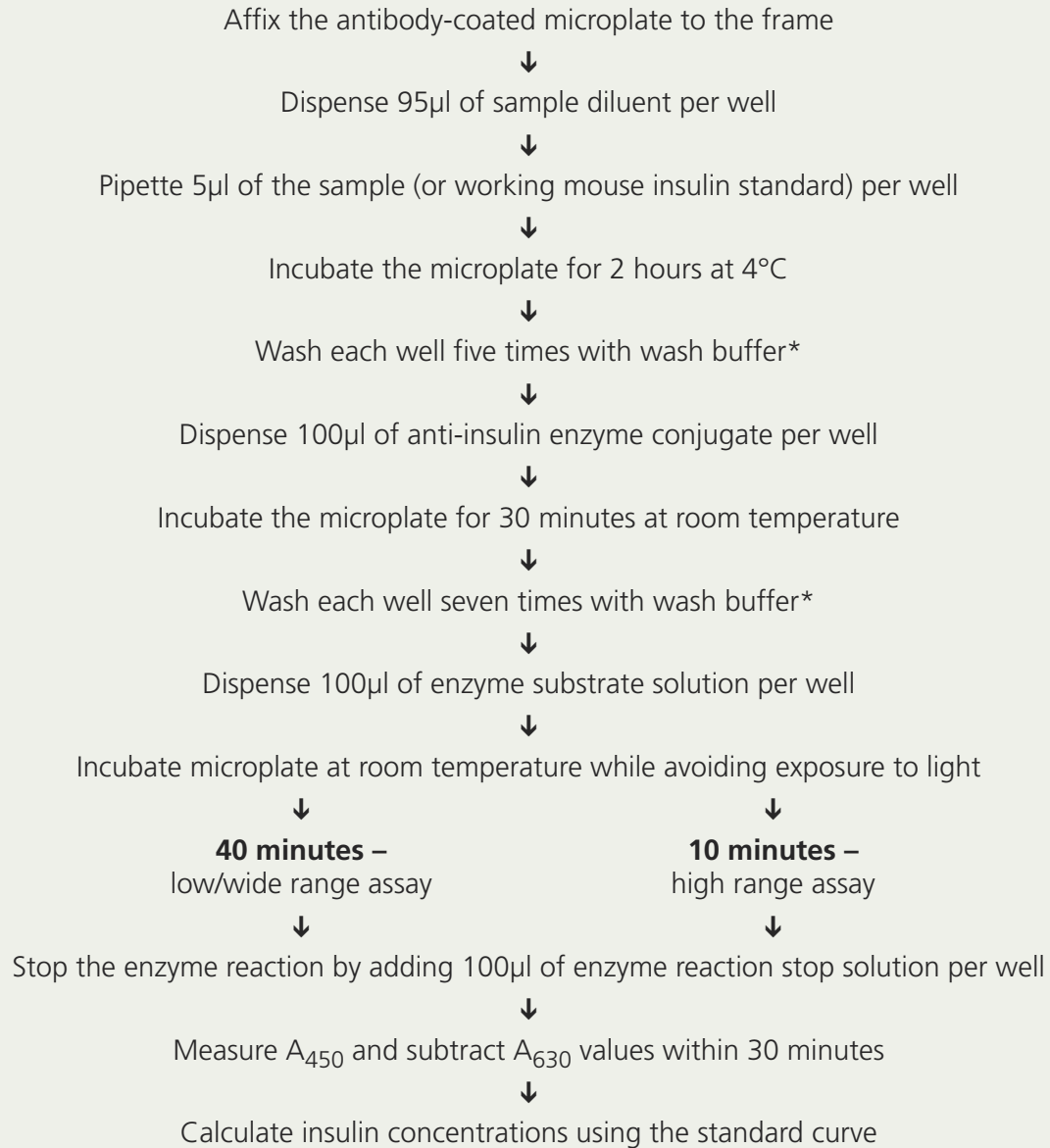
**Typical Standard Curves:**



- Highlights:**
- **Small Sample Volume:** Only 5 $\mu$ l
  - **High Sensitivity:** 100 pg/ml using 5 $\mu$ l sample and 5 pg/ml using 100 $\mu$ l sample
  - **Both Low and High Insulin Assay:** Using same kit
  - **Precision:** Intra-assay and inter-assay precision CV  $\leq$  10.0%
  - **Protocol:** Same protocol for serum, plasma or fluid assay

# Summary of Assay

Ultra Sensitive Mouse Insulin ELISA Kit (Cat# 90080)



\* Each well should be washed with 300µl of wash buffer. Aspirate the wells completely so all excess solution is removed.

# Ultra Sensitive Rat Insulin ELISA Kit

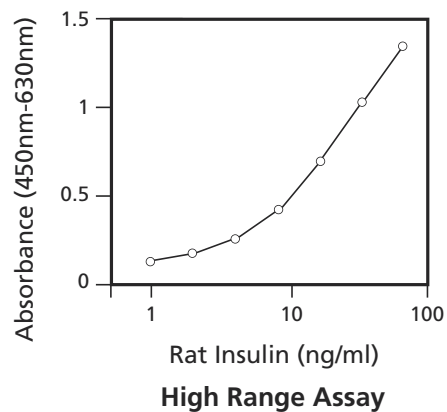
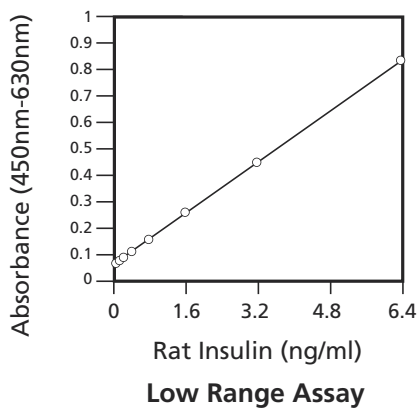
- Sample Size:** 5 $\mu$ l
- Samples:** Serum, plasma or fluid
- Tests:** 96 wells (8 wells x 12 modules)
- Reagents:** In liquid form (except standard)
- Assay Range:** Low Range Assay: 0.1 – 6.4 ng/ml  
Wide Range Assay: 0.1 – 12.8 ng/ml\*  
High Range Assay: 1 – 64 ng/ml
- \* Intended for screening purposes.
- Assay Time:** Same day procedure
- Precision:** Intra-assay precision CV  $\leq$  10.0%  
Inter-assay precision CV  $\leq$  10.0%
- Recovery:** When rat insulin was spiked into rat serum, the recovery of rat insulin was 100% $\pm$ 10%

**Specificity:**

Substance	Reactivity
Rat insulin	100%
Mouse insulin	100%*
Rat C-peptide	Not detected
Rat pancreatic polypeptide	Not detected
Porcine glucagons	Not detected
Human insulin like growth factor-I	Not detected
Human insulin like growth factor-II	Not detected

\* Can vary from lot to lot. Specific cross-reactivity data is included with each kit.

**Typical Standard Curves:**

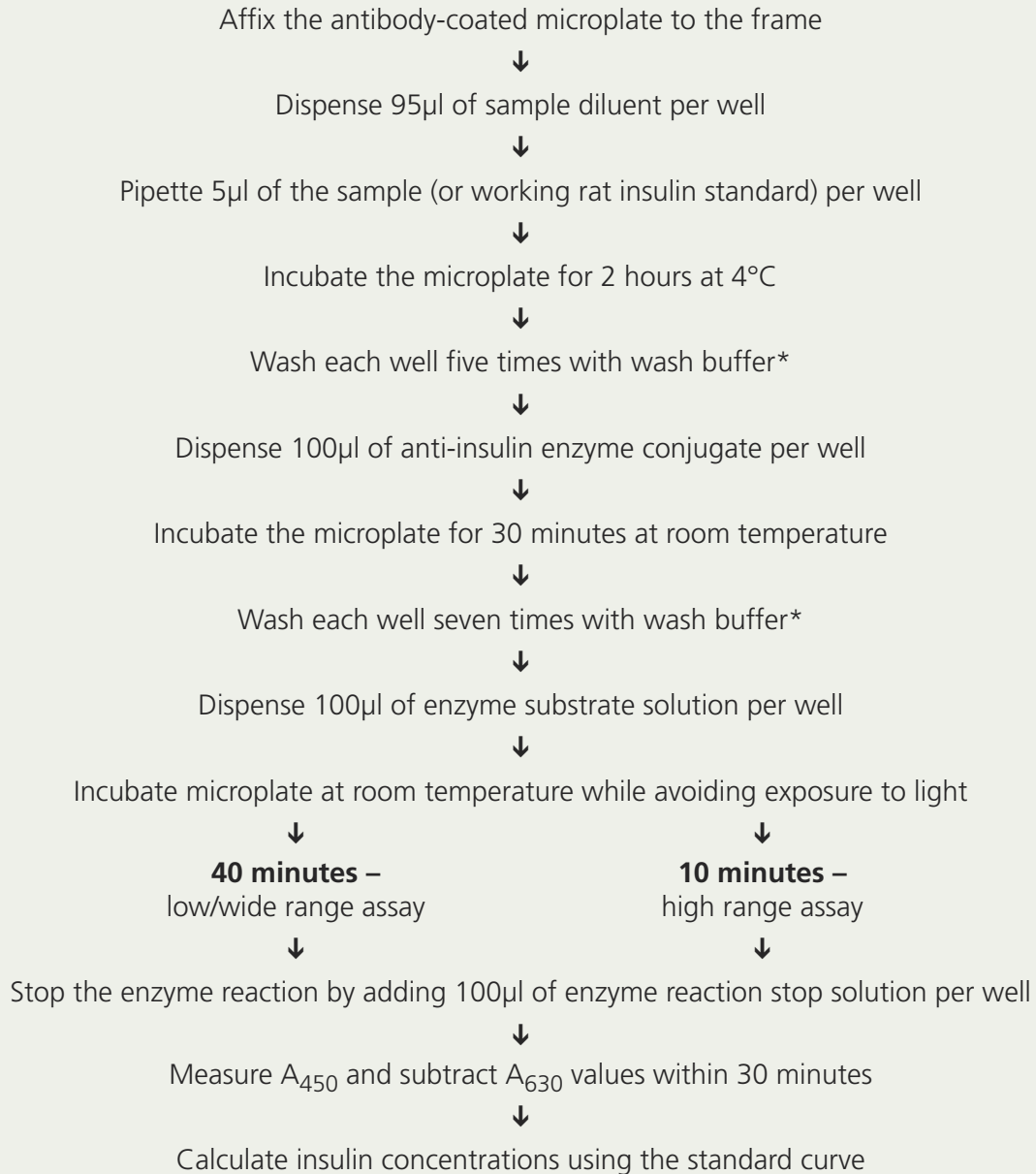


**Highlights:**

- **Small Sample Volume:** Only 5 $\mu$ l
- **High Sensitivity:** 100 pg/ml using 5 $\mu$ l sample and 5 pg/ml using 100 $\mu$ l sample
- **Both Low and High Insulin Assay:** Using same kit
- **Precision:** Intra-assay and inter-assay precision CV  $\leq$  10.0%
- **Protocol:** Same protocol for serum, plasma or fluid assay

# Summary of Assay

Ultra Sensitive Rat Insulin ELISA Kit (Cat# 90060)



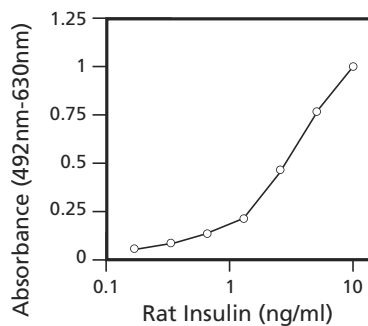
\* Each well should be washed with 300µl of wash buffer. Aspirate the wells completely so all excess solution is removed.

- Sample size:** 5µl for serum or plasma  
50µl for fluid
- Samples:** Serum, plasma or fluid
- Tests:** 96 wells (8 wells x 12 modules)
- Reagents:** In lyophilized form
- Assay Range:** 0.156 – 10.0 ng/ml for serum or plasma  
0.039 – 2.5 ng/ml for fluid
- Assay Time:** Overnight procedure
- Precision:** Intra-assay precision CV ≤ 10.0%  
Inter-assay precision CV ≤ 10.0%
- Recovery:** When rat insulin was spiked into rat serum, the recovery of rat insulin was 100%±10%
- Specificity:**

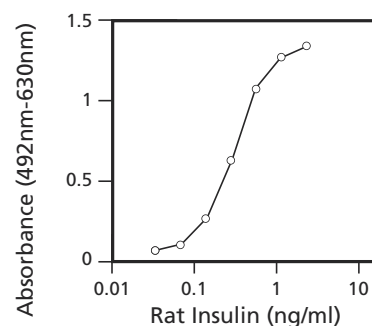
<b>Substance</b>	<b>Reactivity</b>
Rat insulin	100%
Mouse insulin	105%*
Porcine insulin	160%*
Hamster insulin	Detected*
Human insulin (recombinant)	Detected*
Human Proinsulin	Detected*
Rat C-peptide	Not detected
Rat pancreatic polypeptide	Not detected
Porcine glucagon	Not detected
Human insulin like growth factor-I	Not detected
Human insulin like growth factor-II	Not detected

\* Can vary from lot to lot. Specific cross-reactivity data is included with each kit.

## Typical Standard Curves:



**Serum or Plasma Assay**



**Fluid Assay**

## Mouse Insulin Assay:

Using Optional Mouse Insulin Standard 2ng (Cat# INSSM021)

## Highlights:

- **Small Sample Volume:** Only 5µl
- **High Sensitivity:** 156 pg/ml using 5µl sample of serum or plasma
- **Precision:** Intra-assay and inter-assay precision CV ≤ 10.0%

# Summary of Assay

Rat Insulin ELISA Kit (Cat# INSKR020)

## Serum or plasma assay

## Fluid assay

Each well of the microplate is washed twice with wash buffer\*

↓  
Dispense 50µl of guinea pig anti-insulin serum per well (reconstituted by **Sample Diluent 2**)

↓  
Dispense 50µl of guinea pig anti-insulin serum per well (reconstituted by **Sample Diluent 1**)

↓  
Dispense 45µl of **Sample Diluent 2** and 5µl of sample (or 5µl working insulin standard reconstituted by **Sample Diluent 2**) per well

↓  
Dispense 50µl of sample (or 50µl working insulin standard reconstituted by **Sample Diluent 1**) per well

↓  
Incubate the microplate overnight at 4°C

↓  
Wash the well three times with wash buffer\*

↓  
Dispense 100µl of anti-guinea pig antibody enzyme conjugate per well

↓  
Incubate the microplate for 3 hours at room temperature

↓  
Wash the well five times with wash buffer\*

↓  
Dispense 100µl of enzyme substrate solution per well

↓  
Incubate microplate for 30 minutes at room temperature while avoiding exposure to light

↓  
Stop the reaction by adding 50µl of enzyme reaction stop solution per well

↓  
Immediately measure  $A_{492}$  and subtract  $A_{630}$  values

↓  
Calculate insulin concentrations using the standard curve

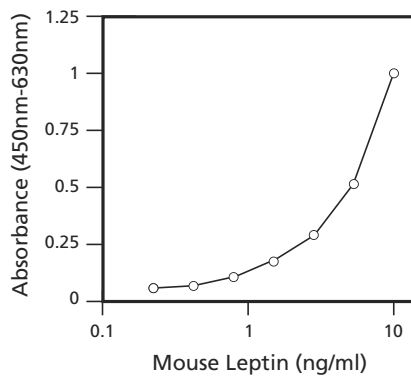
\* Each well should be washed with 300µl of wash buffer. Aspirate the wells completely so all excess solution is removed.

- Sample Size:** 5µl
- Samples:** Serum, plasma or fluid
- Tests:** 96 wells (8 wells x 12 modules)
- Reagents:** In liquid form (except standard)
- Assay Range:** 0.2 – 12.8 ng/ml
- Assay Time:** Overnight procedure
- Precision:** Intra-assay precision CV ≤ 10.0%  
Inter-assay precision CV ≤ 10.0%
- Recovery:** When mouse leptin was spiked into mouse serum, the recovery of mouse leptin was 100.0% ± 20%
- Specificity:**

<b>Substance</b>	<b>Reactivity</b>
r-Mouse leptin	100%
r-Rat leptin	100%*
r-Human leptin	40%*
Mouse Insulin	Not detected
Rat C-Peptide	Not detected
Rat pancreatic polypeptide	Not detected
Glucagon (1-37)	Not detected
Glucagon (1-29)	Not detected
r-Human Insulin like growth factor-I	Not detected
r-Human Insulin like growth factor-II	Not detected
Human Somatostatin	Not detected

\* Can vary from lot to lot. Specific cross-reactivity data is included with each kit.

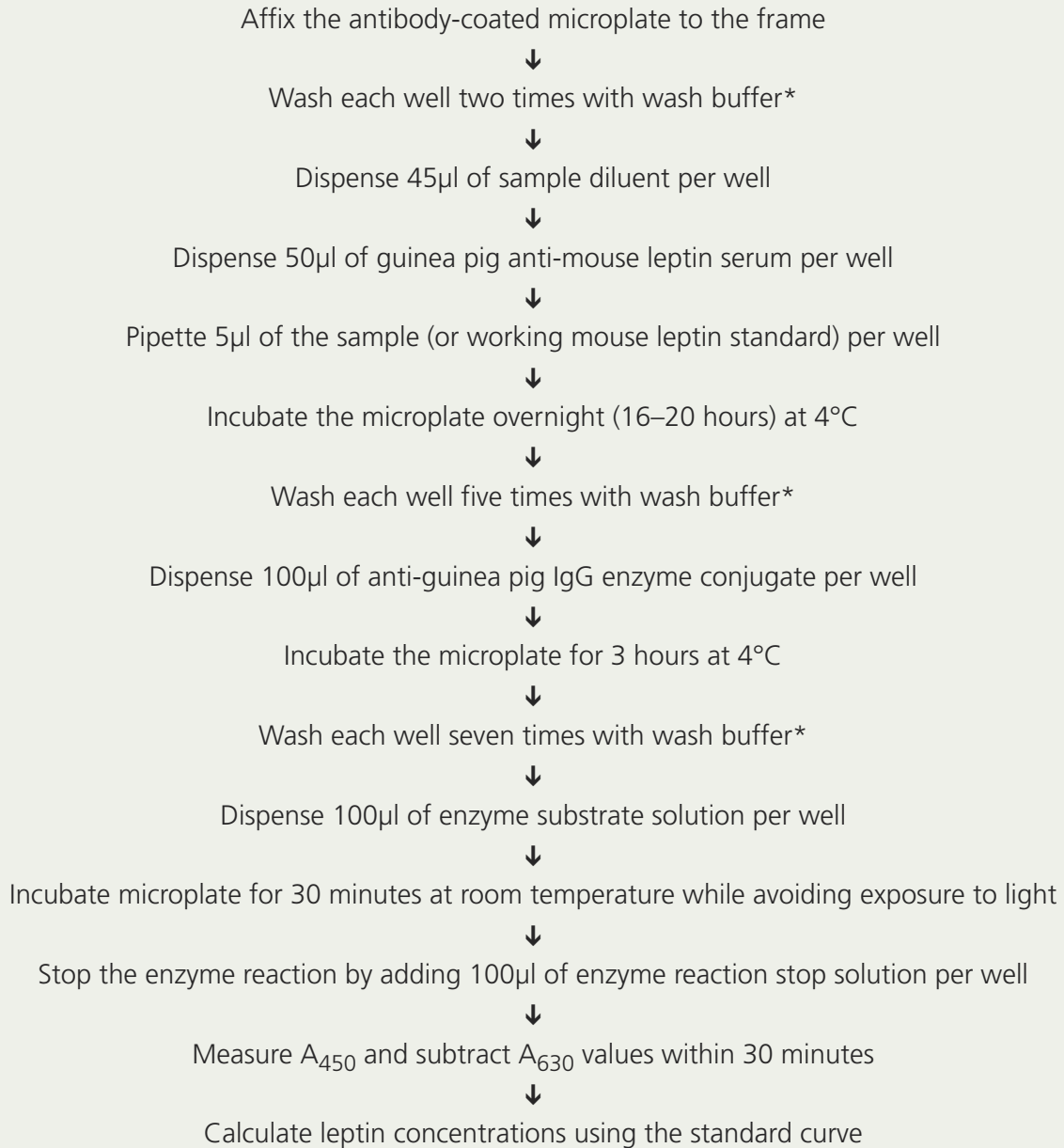
## Typical Standard Curve:



- Highlights:**
- **Small Sample Volume:** Only 5µl
  - **High Sensitivity:** 200 pg/ml using 5µl sample
  - **Precision:** Intra-assay and inter-assay precision CV ≤ 10.0%

# Summary of Assay

## Mouse Leptin ELISA Kit (Cat# 90030)



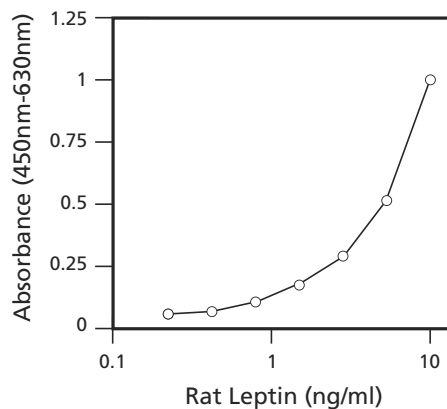
\* Each well should be washed with 300µl of wash buffer. Aspirate the wells completely so all excess solution is removed.

- Sample Size:** 5 $\mu$ l
- Samples:** Serum, plasma or fluid
- Tests:** 96 wells (8 wells x 12 modules)
- Reagents:** In liquid form (except standard)
- Assay Range:** 0.2 – 12.8 ng/ml
- Assay Time:** Overnight procedure
- Precision:** Intra-assay precision CV  $\leq$  10.0%  
Inter-assay precision CV  $\leq$  10.0%
- Recovery:** When rat leptin was spiked into rat serum, the recovery of rat leptin was 100.0%  $\pm$  20%
- Specificity:**

<b>Substance</b>	<b>Reactivity</b>
r-Rat leptin	100%
r-Mouse leptin	100% *
r-Human leptin	40% *
Mouse insulin	Not Detected
Rat C-Peptide	Not Detected
Rat pancreatic polypeptide	Not Detected
Glucagon (1-37)	Not Detected
Glucagon (1-29)	Not Detected
r-Human insulin like growth factor-I	Not Detected
r-Human insulin like growth factor-II	Not Detected

\* Can vary from lot to lot. Specific cross-reactivity data is included with each kit.

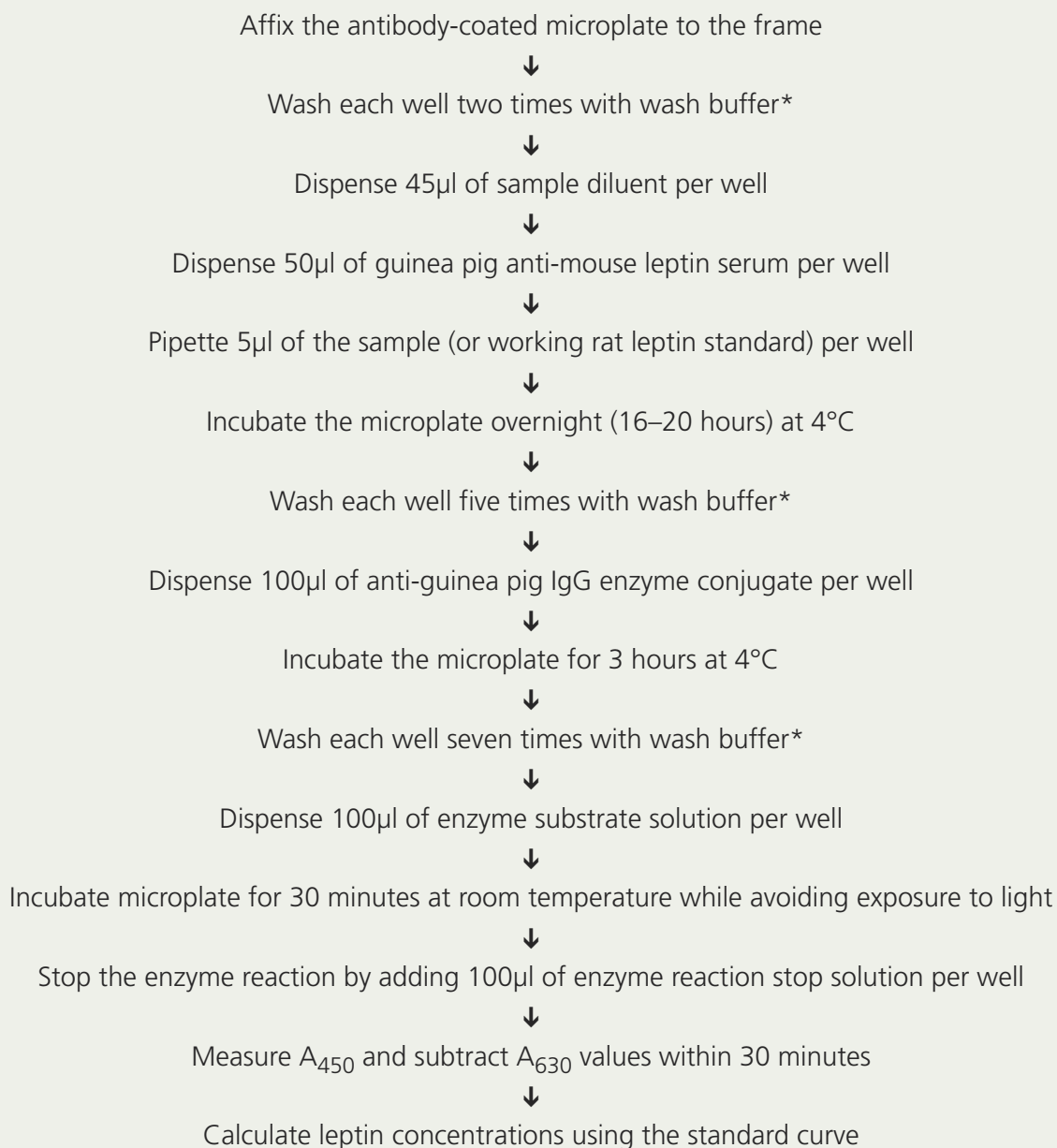
## Typical Standard Curve:



- Highlights:**
- **Small Sample Volume:** Only 5 $\mu$ l
  - **High Sensitivity:** 200 pg/ml using 5 $\mu$ l sample
  - **Precision:** Intra-assay and inter-assay precision CV  $\leq$  10.0%

# Summary of Assay

## Rat Leptin ELISA Kit (Cat# 90040)



\* Each well should be washed with 300µl of wash buffer. Aspirate the wells completely so all excess solution is removed.

# Comparison Chart

## Crystal Chem Rat/Mouse Insulin ELISA Kits

<b>Catalog#</b>	90080	90060	INSKR020
<b>Product</b>	Ultra Sensitive Mouse Insulin ELISA Kit	Ultra Sensitive Rat Insulin ELISA Kit	Rat Insulin ELISA Kit
<b>Sample Size</b> Serum or Plasma	5µl	5µl	5µl
<b>Sample size</b> Fluid sample	5µl	5µl	50µl
<b>Number of tests</b>	96 wells	96 wells	96 wells
<b>Assay time</b>	Same day	Same day	Overnight
<b>Reagents</b>	In liquid form (except standard)	In liquid form (except standard)	In lyophilized form
<b>Standard</b>	Mouse insulin	Rat insulin	Rat insulin
<b>Assay range</b>	0.1–6.4 ng/ml Low range assay  0.1–12.8 ng/ml Wide range assay  1.0–64.0 ng/ml High range assay	0.1–6.4 ng/ml Low range assay  0.1–12.8 ng/ml Wide range assay  1.0–64.0 ng/ml High range assay	0.156–10.0 ng/ml for serum or plasma  0.039–2.5 ng/ml for fluid
<b>Number of Protocols</b>	3	3	2
<b>Type of Protocol</b>	1. Low range assay * 2. Wide range assay *, ** 3. High range assay *	1. Low range assay * 2. Wide range assay *, ** 3. High range assay *	1. Serum or Plasma 2. Fluid
<b>Filters</b>	450nm & 630nm	450nm & 630nm	492nm & 630nm
* Same protocol for serum, plasma or fluid assay    ** Intended for screening purposes only			

## Kit Highlights

- **High Sensitivity:** 100 pg/ml using 5µl sample for Ultra Sensitive Mouse and Rat Insulin Kits.
- **Small Sample Volume:** Only 5µl for serum or plasma. With our advanced technology, you can gain accuracy and precision using small sample volumes.
- **Low and High Insulin Assay Using Same Kit:** You can perform both Low & High range insulin assays using the Ultra Sensitive Mouse Insulin ELISA Kit (Cat# 90080) or Ultra Sensitive Rat Insulin ELISA Kit (Cat# 90060).
- **Excellent Accuracy and Precision:** Intra-assay and inter-assay precision CV ≤ 10.0%.

# References

## Crystal Chem Inc ELISA Kits

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**Goren I, Kampfer H, Podda M, Pfeilschifter J, Frank S.** Leptin and Wound Inflammation in Diabetic ob/ob Mice: Differential Regulation of Neutrophil and Macrophage Influx and a Potential Role for the Scab as a Sink for Inflammatory Cells and Mediators. *Diabetes.* 2003 Nov;52(11):2821-32.

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## Crystal Chem Inc ELISA Kits

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# Crystal Chem ELISA Kits

	Catalog#
Ultra Sensitive Mouse Insulin ELISA Kit <b>NEW!</b>	90080
Ultra Sensitive Rat Insulin ELISA Kit	90060
Mouse Insulin Standard 2.56ng Use with Ultra Sensitive Rat Insulin ELISA Kit, Cat# 90060	90070
Rat Insulin ELISA Kit	INSKR020
Mouse Insulin Standard 2ng Use with Rat Insulin ELISA Kit, Cat# INSKR020	INSSM021
Mouse Leptin ELISA Kit	90030
Rat Leptin ELISA Kit <b>NEW!</b>	90040
Dog Insulin Standard 2ng	90150



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