Human AKR1B1 / Aldose reductase ELISA Kit
SKU: HUFI01826

Datasheet:

Key features and Sample Types

Aliases:
AKR1B1(Aldose reductase)/Aldo-keto reductase family 1 member B1

Uniprot:
P15121

Detection method:
Sandwich

Sample Type:
Serum, Plasma and other biological fluids

Range:
0.156-10ng/ml

Sensitivity:
0.094 ng/ml

Storage & Expiry

ELISA Genie ELISA Kits are shipped on ice packs. Please store this ELISA Kit at 4°C. Date of expiration will be on the ELISA Box label.
**Standard dilution**

1). 10ng/ml of standard solution: Add 1 ml of Sample / Standard dilution buffer into one Standard tube, keep the tube at room temperature for 10 min and mix thoroughly.

2). 10ng/ml → 0.15625ng/ml of standard solutions: Label 6 Eppendorf tubes with 5ng/ml, 2.5ng/ml, 1.25ng/ml, 0.625ng/ml, 0.3125ng/ml, 0.15625ng/ml, respectively. Aliquot 300μl of the Sample / Standard dilution buffer into each tube. Add 300μl of the above 10ng/ml standard solution into 1st tube and mix thoroughly. Transfer 300μl from 1st tube to 2nd tube and mix thoroughly. Transfer 300μl from 2nd tube to 3rd tube and mix thoroughly, and so on.

**DILUTION SERIES**

<table>
<thead>
<tr>
<th>5ng/ml</th>
<th>2.5ng/ml</th>
<th>1.25ng/ml</th>
<th>0.625ng/ml</th>
<th>0.3125ng/ml</th>
<th>0.15625ng/ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>300μl</td>
<td>300μl</td>
<td>300μl</td>
<td>300μl</td>
<td>300μl</td>
<td>300μl</td>
</tr>
</tbody>
</table>

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10ng/ml

**Note:** The standard solutions are best used within 2 hours. The standard solution series should be kept at 4°C for up to 12 hours. Or store at -20 °C for up to 48 hours. Avoid repeated freeze-thaw cycles.
Typical Data & Standard Curve

Results of a typical standard run of Human AKR1B1 / Aldose reductase ELISA Kit are shown below. This standard curve was generated at our lab for demonstration purpose only. Each user should obtain their own standard curve as per experiment.

Specificity

This assay has high sensitivity and excellent specificity for detection of Human AKR1B1 / Aldose reductase. No significant cross-reactivity or interference between Human AKR1B1 / Aldose reductase and analogues was observed.

Recovery

Matrices listed below were spiked with Human AKR1B1 / Aldose reductase and the recovery rates were calculated by comparing the measured value to the expected amount of Human AKR1B1 / Aldose reductase in samples.

<table>
<thead>
<tr>
<th>Matrix</th>
<th>Recovery range (%)</th>
<th>Average (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum (n=5)</td>
<td>85-101</td>
<td>92</td>
</tr>
<tr>
<td>EDTA plasma (n=5)</td>
<td>88-102</td>
<td>96</td>
</tr>
<tr>
<td>UFH plasma (n=5)</td>
<td>89-105</td>
<td>99</td>
</tr>
</tbody>
</table>
**Linearity**

The linearity of the kit was assayed by testing samples spiked with appropriate concentration of Human AKR1B1 / Aldose reductase and their serial dilutions.

<table>
<thead>
<tr>
<th>Sample</th>
<th>1:2</th>
<th>1:4</th>
<th>1:8</th>
<th>1:16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum (n=5)</td>
<td>86-104%</td>
<td>86-98%</td>
<td>86-105%</td>
<td>89-105%</td>
</tr>
<tr>
<td>EDTA plasma (n=5)</td>
<td>84-101%</td>
<td>88-101%</td>
<td>84-98%</td>
<td>84-97%</td>
</tr>
<tr>
<td>UFH plasma (n=5)</td>
<td>87-97%</td>
<td>83-95%</td>
<td>81-89%</td>
<td>82-100%</td>
</tr>
</tbody>
</table>

**Precision**

- **Intra-assay Precision (Precision within an assay):** 3 samples with low, middle and high level Human AKR1B1 / Aldose reductase were tested 20 times on one plate, respectively.
- **Inter-assay Precision (Precision between assays):** 3 samples with low, middle and high level Human AKR1B1 / Aldose reductase were tested on 3 different plates, 8 replicates in each plate.
- **CV (%):** SD/mean X 100
- **Intra-Assay:** CV<8%
- **Inter-Assay:** CV<10%

**Stability**

The stability of the Human AKR1B1 / Aldose reductase ELISA Kit is determined by the loss rate of activity. The loss rate of this kit is less than 10% within the expiration date under appropriate storage conditions.

<table>
<thead>
<tr>
<th>Standard (n=5)</th>
<th>37°C for 1 month</th>
<th>4°C for 6 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average (%)</td>
<td>80</td>
<td>95-100</td>
</tr>
</tbody>
</table>

To minimize extra influence on the performance, operation procedures and lab conditions, especially room temperature, air humidity, incubator temperature should be strictly controlled. It is also strongly suggested that the whole assay is performed by the same operator from the beginning to the end.

**Contact Details:**

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