Rat Hemoglobin (Hb) ELISA Kit

Product Code	CSB-E13036r
Protein Biological Process 2	Anion transport
Abbreviation	HBA1
Protein Biological Process 1	Transport
Target Name	hemoglobin, alpha 1
Uniprot No.	P01946
Alias	CD31, MGC126895, MGC126897, alpha 1 globin|alpha one globin|alpha-1 globin|alpha-1-globin|hemoglobin alpha 1 globin chain|hemoglobin alpha-1 chain
Product Type	ELISA Kit
Immunogen Species	Rattus norvegicus (Rat)
Protein Biological Process 3	Oxygen transport
Sample Types	serum, plasma, lysate for RBC.
Detection Range	0.78 μg/mL-50 μg/mL
Sensitivity	0.39 μg/mL
Assay Time	1-5h
Sample Volume	50-100ul
Detection Wavelength	450 nm
Lead Time	3-5 working days after you place the order, and it takes another 3-5 days for delivery via DHL or FedEx.
Research Area	Signal Transduction
Gene Names	Hba1
Tag Info	quantitative
Protein Description	Competitive
Description	The rat hemoglobin (Hb) ELISA Kit is engineered for accurate measurement of rat hemoglobin levels from samples including serum, plasma, or lysate for RBC. It uses the Competitive-ELISA mechanism in combination with the enzyme-substrate chromogenic reaction to measure the rat hemoglobin content in the sample. The color intensity is negatively correlated with hemoglobin content in the sample. This kit has been validated against standards of sensitivity, specificity, precision, linearity, recovery, and lot-to-lot consistency. Hemoglobin is a two-way respiratory carrier, transporting oxygen from the lungs

to the tissues and facilitating the return transport of carbon dioxide. In arterial circulation, hemoglobin has a high affinity for oxygen and a low affinity for carbon dioxide, organic phosphates, and hydrogen and chloride ions. In addition to being a molecular heat transducer through its oxygenation-deoxygenation cycle as well as a modulator of erythrocyte metabolism, hemoglobin's oxidation is an onset of erythrocyte senescence.It also mediates reactive oxygen and nitrogen species detoxification.p>

Target Details

The human alpha globin gene cluster located on chromosome 16 spans about 30 kb and includes seven loci: 5 - zeta - pseudozeta - mu - pseudoalpha-1 - alpha-2 - alpha-1 - theta - 3 . The alpha-2 (HBA2) and alpha-1 (HBA1) coding sequences are identical. These genes differ slightly over the 5 untranslated regions and the introns, but they differ significantly over the 3 untranslated regions. Two alpha chains plus two beta chains constitute HbA, which in normal adult life comprises about 97% of the total hemoglobin; alpha chains combine with delta chains to constitute HbA-2, which with HbF (fetal hemoglobin) makes up the remaining 3% of adult hemoglobin. Alpha thalassemias result from deletions of each of the alpha genes as well as deletions of both HBA2 and HBA1; some nondeletion alpha thalassemias have also been reported.

Product Precision

Intra-assay Precision (Precision within an assay): CV%<8%

Three samples of known concentration were tested twenty times on one plate to assess.

Inter-assay Precision (Precision between assays): CV%<10%

Three samples of known concentration were tested in twenty assays to assess.

Linearity

To assess the linearity of the assay, samples were spiked with high concentrations of rat Hb in various matrices and diluted with the Sample Diluent to produce samples with values within the dynamic range of the assay.

?	Sample	Serum(n=4)
1:5	Average %	101
	Range %	95-107
1:10	Average %	93
	Range %	89-97
1:20	Average %	95
	Range %	90-100
1:40	Average %	90
	Range %	85-97

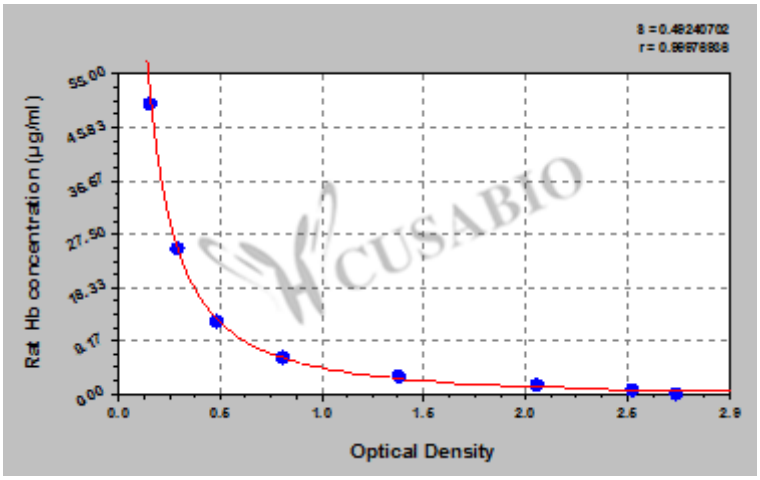
Recovery

The recovery of rat Hb spiked to levels throughout the range of the assay in various matrices was evaluated. Samples were diluted prior to assay as directed in the Sample Preparation section.

Sample Type	Average % Recovery	Range
Serum (n=5)	89	84-93
EDTA plasma (n=4)	92	88-96

Typical

These standard curves are provided for demonstration only. A standard curve should be generated for each set of samples assayed.



µg/ml	OD1	OD2	Average
50	0.169	0.176	0.1725
25	0.292	0.311	0.3015
12.5	0.486	0.483	0.4845
6.25	0.819	0.795	0.807
3.12	1.373	1.347	1.36
1.56	2.013	2.024	2.0185
0.78	2.461	2.493	2.477
0	2.721	2.652	2.6865