abcam

Product datasheet

Rat CKM ELISA Kit ab187396

SimpleStep ELISA®

7 References 7 Images

Overview

Product name Rat CKM ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Serum	8			4%

Inter-assay

Sample	n	Mean	SD	CV%
Serum	3			5%

Sample type Serum, Tissue Extracts, Cit plasma

Assay type Sandwich (quantitative)

Sensitivity 5.83 ng/ml

Range 8.8 ng/ml - 100 ng/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Serum	94	89% - 97%
Extraction Buffer	96	87% - 101%

Assay time 1h 30m

Assay duration One step assay

Species reactivity **Reacts with:** Rat

Product overview Rat CKM ELISA Kit (ab187396) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of CKM protein in serum, tissue extracts, and cit plasma. It uses our proprietary SimpleStep ELISA® technology. Quantitate Rat CKM with 5.83 ng/ml sensitivity.

SimpleStep ELISA® technology employs capture antibodies conjugated to an affinity tag that is recognized by the monoclonal antibody used to coat our SimpleStep ELISA® plates. This approach to sandwich ELISA allows the formation of the antibody-analyte sandwich complex in a single step, significantly reducing assay time. See the SimpleStep ELISA® protocol summary in the image section for further details. Our SimpleStep ELISA® technology provides several benefits:

- Single-wash protocol reduces assay time to 90 minutes or less
- High sensitivity, specificity and reproducibility from superior antibodies
- Fully validated in biological samples
- 96-wells plate breakable into 12 x 8 wells strips

A 384-well SimpleStep ELISA® microplate (**ab203359**) is available to use as an alternative to the 96-well microplate provided with SimpleStep ELISA® kits.

Notes

Creatine kinase (CK), also known as creatine phosphokinase (CPK) or phospho-creatine kinase, is an enzyme that catalyzes the reversible transfer of a high-energy phosphate group between phosphocreatine and ATP. There are five known CK isozymes, three located in the cytosol (CKMM, CKMB, CKBB) and two in the mitochondria (Mi_SCK and Mi_UCK). Structurally, cytosolic CK is a 86 kDa dimeric enzyme of two identical or non-identical chains, CKM and/or CKB whereas mitochondrial CK is an octameric enzyme associated with mitochondrial membranes. The compartmentation of CK isoenzymes allows for direct association with ATP-providing or consuming processes both linked via metabolite channeling through the creatine phosphate shuttle. Thus CK isoenzymes allow for the generation of a large pool of phosphocreatine, considered to be a temporal and spatial ATP buffering system in tissues with large, fluctuating energy demands, such as skeletal muscle, heart, brain and spermatozoa.

Expression of cytosolic isoenzyme patterns differ between tissues, with skeletal muscle expressing high levels of CK-MM (98%) and low levels of CK-MB (1%), the myocardium (heart muscle) expressing CK-MM at 70% and CK-MB at 25–30% and the brain and neural tissue expressing mainly CK-BB. CKM is also found in serum from normal animals and levels vary based on muscle mass, age, physical activity and underlying pathologies.

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It is the responsibility of our customers to check the necessity of application of REACH Authorisation, and any other relevant authorisations, for their intended uses.

Platform

Microplate

Properties

Storage instructions

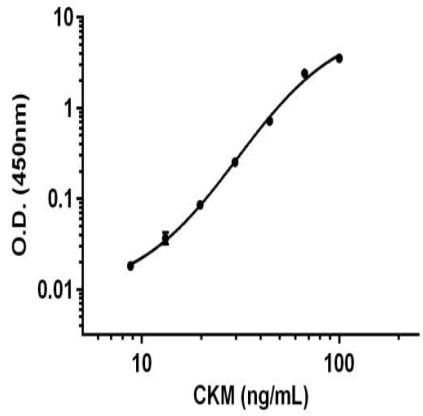
Please refer to protocols.

Components	1 x 96 tests
10X CKM Capture Antibody	1 x 600µl
10X CKM Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml

Components	1 x 96 tests
50X Cell Extraction Enhancer Solution (ab193971)	1 x 1ml
5X Cell Extraction Buffer PTR (ab193970)	1 x 10ml
Antibody Diluent 5BI	1 x 6ml
Plate Seals	1 unit
Rat CKM Lyophilized Purified Protein	2 vials
Sample Diluent NS (ab193972)	1 x 50ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

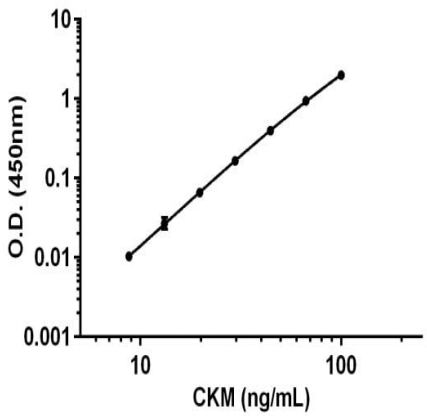
Cellular localization Cytoplasmic

Images



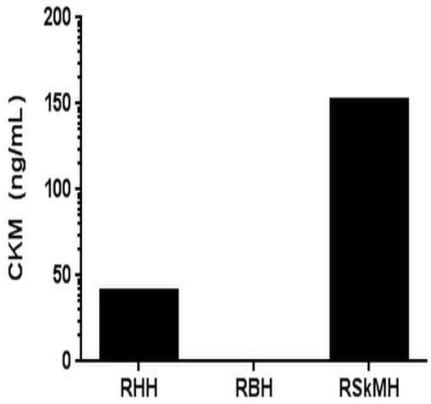
Example of CKM standard curve in Sample Diluent NS.

Background-subtracted data values (mean +/- SD) are graphed.



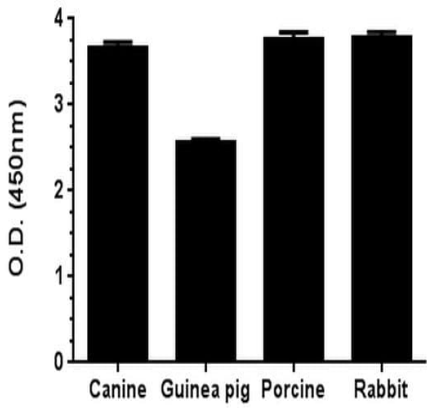
Example of CKM standard curve in Extraction Buffer PTR.

Background-subtracted data values (mean +/- SD) are graphed.



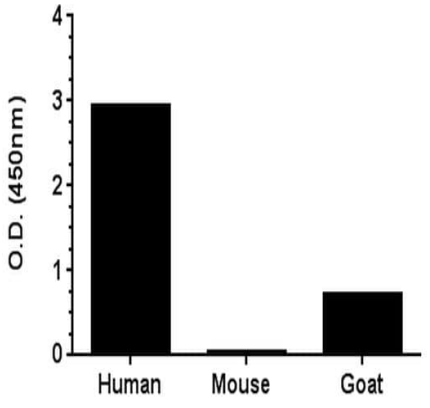
Tissue specificity of CKM in rat tissue extracts, Rat Heart (RHH), brain (RBH) and Skeletal Muscle (RSkMH).

Levels of CKM in 10 µg/mL extract were interpolated from a standard curve in 1X Cell Extraction Buffer PTR.



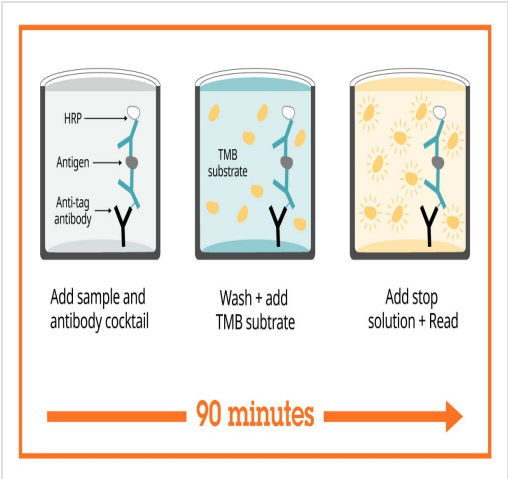
Serum species reactivity.

Canine, Guinea pig, Porcine and Rabbit serum was loaded in the assay at 2.5% in Sample Diluent NS. Absorbance levels after background subtraction are displayed.



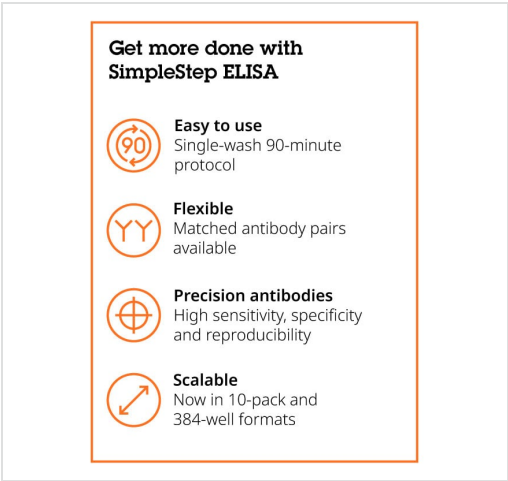
Serum species reactivity.

Human, Mouse and Goat serum was loaded in the assay at 1% in Sample Diluent NS. Absorbance levels after background subtraction are displayed.



Sandwich ELISA - Rat CKM ELISA Kit (ab187396)

SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.



Sandwich ELISA - Rat CKM ELISA Kit (ab187396)

To learn more about the advantages of SimpleStep ELISA® kits see **here**.

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