

Product datasheet

Iron Assay Kit (Colorimetric) ab83366

★★★★★ 1 Abreviews 49 References 4 Images

Overview

Product name	Iron Assay Kit (Colorimetric)
Detection method	Colorimetric
Sample type	Urine, Serum, Other biological fluids, Tissue Extracts, Cell culture media
Assay type	Quantitative
Sensitivity	> 8 μM
Range	8 μM - 400 μM
Assay time	1h 00m
Product overview	Iron Assay Kit ab83366 provides a simple convenient means of measuring ferrous (Fe^{2+}) and/or ferric (Fe^{3+}) iron in biological samples.

In the iron assay protocol, ferrous iron (Fe^{2+}) reacts with Ferene S to produce a stable colored complex with absorbance at 593 nm. Ferric iron (Fe^{3+}) can be reduced to form Fe^{2+} enabling the measurement of total iron (Fe^{2+} and Fe^{3+}). The level of ferric iron (Fe^{3+}) is calculated by subtracting ferrous iron from total iron.

A specific chelate chemical is included in the buffer to block copper ion (Cu^{2+}) interference. The kit measures iron in the linear range of 0.4 to 10 nmol or 8 μM to 200 μM .

Iron assay protocol summary:

- add samples and standards to wells
- for Fe^{2+} assay add assay buffer only, for total iron (Fe^{2+} and Fe^{3+}) add iron reducer
- incubate for 30 min at 37°C
- add iron probe and incubate for 60 min at 37°C
- analyze with microplate reader

Chinese protocol available. See protocols section below.

Notes

Abcam has not and does not intend to apply for the REACH Authorisation of customers' uses of products that contain European Authorisation list (Annex XIV) substances. 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 reader

Properties

Storage instructions

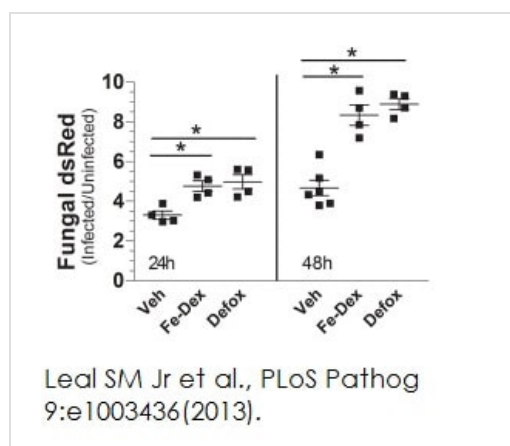
Store at -20°C. Please refer to protocols.

Components	Identifier	100 tests
Iron Assay Buffer	WM	1 x 25ml
Iron Probe	NM	1 x 12ml
Iron Reducer	Green	1 x 700µl
Iron Standard (100 mM)	Yellow	1 x 100µl

Relevance

Iron is essential to nearly all known organisms. It is generally stored in the centre of metalloproteins, in the heme complex, and in oxygen carrier proteins. Inorganic iron also contributes to redox reactions in the iron-sulfur clusters of many enzymes, such as nitrogenase and hydrogenase.

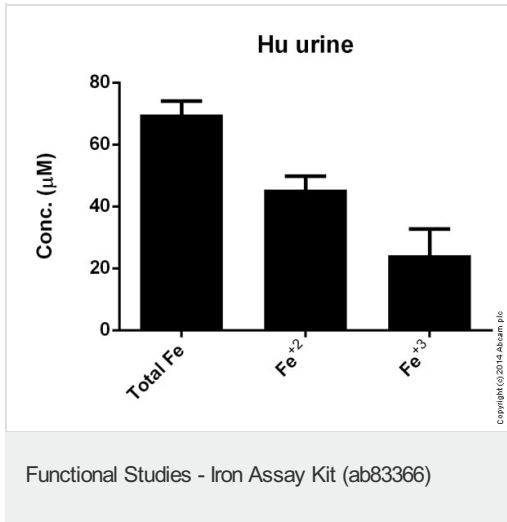
Images



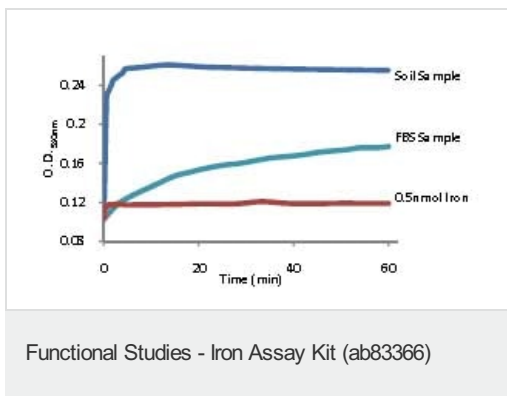
Functional studies - ab83366

Leal SM Jr et al., PLoS Pathog 9(7), fig 2c. doi: 10.1371/journal.ppat.1003436. Reproduced under the Creative Commons license <http://creativecommons.org/licenses/by/4.0/>

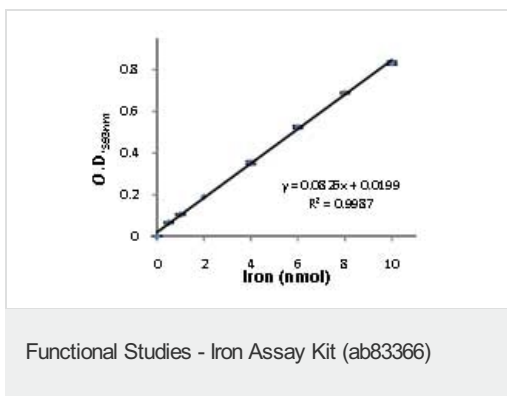
Leal SM Jr et al examined if iron availability regulates fungal growth in an infection as fungal infection initiates an iron sequestration response. Mice given Fe-dextran (Fe-Dex) and deferoxamine (Defox) shows a higher fungal mass (Fungal dsRed) compared to vehicle treated mice over 48 hours. Iron content was quantified in mouse serum using Iron assay kit (ab83366).



Iron measured in human urine showing concentration (micromolar)



Assay of soluble free iron from a soil sample (5 µL of 100 µL buffer into which 100 mg of soil had been stirred), 5 µL of FBS and 5 µL of a 100 µM sample of iron standard.



Example of iron standard curve using ab83366.

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