

Product datasheet

Complex IV Rodent Enzyme Activity Dipstick Assay Kit ab109878

6 References 3 Images

Overview

Product name	Complex IV Rodent Enzyme Activity Dipstick Assay Kit
Sample type	Cell culture extracts, Tissue
Assay type	Sandwich (quantitative)
Species reactivity	Reacts with: Mouse, Rat
Product overview	ab109878(MS432) contains 30 or 90 dipsticks and necessary components to quantify the activity of the cytochrome c oxidase enzyme complex from mouse and rat samples. The kit includes sufficient materials to generate a standard curve and evaluate several unknown samples.

Using an antibody immobilized on the dipstick that specifically recognizes COX, the enzyme complex is immuno-captured (i.e immuno-precipitated in active form) and enzyme activity is determined directly on the dipstick. Using a traditional method for determining COX enzyme activity by histo-chemical methods and in-gel activity assays, Di-amino benzidinetetrachloride (DAB) serves as the reporter of COX activity. The greater the signal of precipitated DAB, the greater the amount of COX enzyme complex. In addition, the reaction is cyanide sensitive. The signal intensity is best measured by a dipstick reader or may be analyzed by another imaging system.

Notes

Store dipsticks at room temperature in their provided container and out of direct sunlight.

High humidity conditions should be avoided.

Store Buffer A, B, and C at 4°C or at -20°C for long term storage.

Store Tubes 1 and 2 at -20°C or at -80°C for long term storage; they can also be aliquoted upon receipt to prevent freeze/thaw cycles.

Tube 3 can be stored at room temperature.

Range of complex IV / cytochrome c oxidase assay kits

Biochemical assay - [ab239711](#)

Immunocapture with biochemical assay (plate-based) - [ab109911 \(rodent\)](#) and [ab109909 \(human\)](#)

Immunocapture with biochemical assay (dipstick) - [ab109878 \(rodent\)](#) (this kit) and [ab109876 \(human\)](#)

Immunocapture with biochemical assay and ELISA - [ab109910 \(human\)](#)

ELISA - [ab179880 \(human\)](#)

Tested applications

Suitable for: Functional Studies

Platform

Reagents

Properties

Storage instructions

Please refer to protocols.

Components	90 tests	30 tests
96-well microplate	6 units	2 units
Buffer B (10X Blocking solution)	3 x 2ml	1 x 2ml
Dipsticks	1 x 90 units	1 x 30 units
Extraction Buffer (ab260490)	3 x 15ml	1 x 15ml
Tube 1 (DAB 100X stock)	3 x 100µl	1 x 100µl
Tube 2 (reduced cytochrome c 20X stock)	3 x 500µl	1 x 500µl
Tube 3 (Buffer for activity assay)	3 x 10ml	1 x 10ml
Wash buffer	3 x 2ml	1 x 2ml

Applications

Our [Abpromise guarantee](#) covers the use of **ab109878** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Functional Studies		Use at an assay dependent dilution.

Images

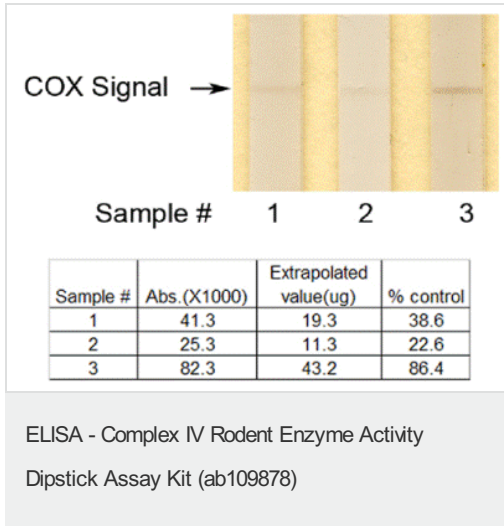


Figure 2. An example using ab109878 to quantify Complex IV enzyme activity in mouse protein extracts Based on the standard curve, 50 µg of protein extract were loaded onto a dipstick for each sample. The figure shows three developed dipsticks from unknown samples (1-3). The analysis of the signal intensity and interpolation from the standard curve showed that the unknown samples have between 23-87% of normal Complex IV activity levels.

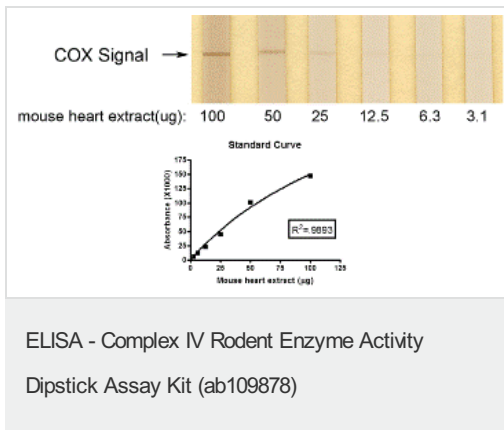
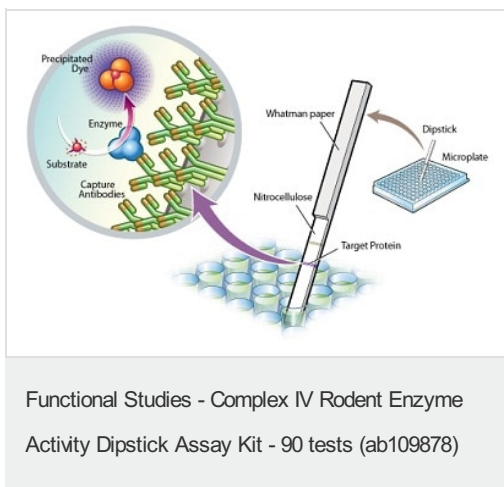


Figure 1. An example using ab109878 to quantify Complex IV enzyme activity in mouse protein extracts Developed dipsticks from a 1:2 dilution series using a positive control sample and the associated standard curve. Starting material was 100 µg of protein extract.



Abcam's enzyme activity assays apply a novel approach, whereby target enzymes are first immunocaptured from tissue or cell samples before subsequent functional analysis. Dipstick ELISA Kits extend this concept by utilizing the well-established lateral flow concept, wherein capture antibodies are striped onto nitrocellulose membrane and a wicking pad draws the sample through the antibody bands. All of our ELISA kits utilize highly validated monoclonal antibodies and proprietary buffers, which are able to capture even very large enzyme complexes in their fully-intact, functionally-active states.

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