**Overview**

**Product name**
Succinate Dehydrogenase Activity Assay Kit (Colorimetric)

**Detection method**
Colorimetric

**Sample type**
Cell culture extracts, Tissue Homogenate

**Assay type**
Enzyme activity (quantitative)

**Sensitivity**
< 0.1 mU/well

**Product overview**
Succinate Dehydrogenase Activity Assay Kit (Colorimetric) (ab228560) is rapid, simple and high-throughput adaptable. In this assay, Succinate Dehydrogenase converts succinate to fumarate, and transfers the electron to an artificial electron acceptor (Probe), which changes the color from blue to a colorless product (depending upon the sample enzymatic activity). This assay kit can detect less than 0.1 mU Succinate Dehydrogenase activity in a variety of samples.

The kit provides enough reagents for 100 assays using the methods as described.

**Notes**
This product is manufactured by BioVision, an Abcam company and was previously called K660 Succinate Dehydrogenase Activity Colorimetric Assay Kit. K660-100 is the same size as the 100 test size of ab228560.

Succinate Dehydrogenase (SDH) (EC 1.3.5.1) or succinate-coenzyme Q reductase (SQR) or respiratory complex II is an enzyme complex, which is bound to the inner mitochondrial membrane. SDH participates in both the citric acid cycle and electron transport chain. In mammals and many bacteria, SDH consists of 2 hydrophilic subunits, SDHA (flavoprotein) and SDHB (iron-sulfur protein) and 2 hydrophobic membrane anchor subunits: SDHC and SDHD. SDH oxidizes succinate to fumarate and transfers the electrons to ubiquinone. SDH deficiency in humans leads to a variety of phenotypes including Leigh syndrome, a neurometabolic disorder, tumor formation, and myopathy. Recent studies show that SDH can prevent the generation of ROS (reactive oxygen species); therefore, measurement of succinate dehydrogenase activity has wide applications.

**Platform**
Microplate reader

**Properties**
Storage instructions
Store at -20°C. Please refer to protocols.

<table>
<thead>
<tr>
<th>Components</th>
<th>100 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCIP Standard</td>
<td>1 x 0.4ml</td>
</tr>
<tr>
<td>Electron Probe</td>
<td>1 x 0.2ml</td>
</tr>
<tr>
<td>SDH Assay Buffer</td>
<td>1 x 25ml</td>
</tr>
<tr>
<td>SDH Positive Control</td>
<td>1 vial</td>
</tr>
<tr>
<td>SDH Substrate Mix</td>
<td>1 x 2.6mg</td>
</tr>
</tbody>
</table>

Relevance
Complex II is also called succinate ubiquinone oxidoreductase or more commonly succinate dehydrogenase complex. This complex is composed of four nuclear encoded subunits and contains a flavin (FAD), non-heme iron centers and a b-type cytochrome as prosthetic groups. It is both a component of the electron transport chain and an enzyme of the Krebs cycle. Complex II deficiencies are seen in OXPHOS genetic disease and found in a type of cancer called paraganglioma.

Images
(a) DCIP standard curve, (b) typical assay data and (c) succinate dehydrogenase activity in mitochondria isolated from mouse heart (24 μg) and liver (70 μg).

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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