**Product name**
Peroxidase Activity Assay Kit

**Detection method**
Colorimetric/Fluorometric

**Sample type**
Cell culture supernatant, Urine, Serum, Plasma, Other biological fluids

**Assay type**
Enzyme activity

**Species reactivity**
Reacts with: Mammals, Other species

**Product overview**
Abcam’s Peroxidase Assay Kit (ab155895) provides a convenient colorimetric and fluorometric means to measure the peroxidase activity in biological samples. In the presence of Peroxidase, the OxiRed Probe reacts with H$_2$O$_2$ in a 1:1 stoichiometry to produce the redfluorescent oxidation product, resorufin. The resorufin is quantified by colorimetric ($\lambda_{max} = 570$nm) or fluorometric methods (Ex/Em = 535/587 nm). The assay is simple, direct, highly sensitive and high throughput-ready. The detection limit is 0.1 mU per well via colorimetric or 0.01 mU per well via fluorometric method, based on our unit definition.

**Notes**
Peroxidases (EC number 1.11.1.x) are a large family of enzymes that typically catalyze a reaction of the form: ROOR' + electron donor (2 e-) + 2H+ → ROH + R'OH. For many of these enzymes the optimal substrate is hydrogen peroxide, but others are more active with organic hydroperoxides such as lipid peroxides. Peroxidases can contain a heme cofactor in their active sites, or alternately redox-active cysteine or selenocysteine residues.

**Platform**
Microplate reader

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

<table>
<thead>
<tr>
<th>Components</th>
<th>Identifier</th>
<th>100 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>HRP Positive Control</td>
<td>Green</td>
<td>1 vial</td>
</tr>
<tr>
<td>Hydrogen Peroxide Substrate</td>
<td>Yellow</td>
<td>1 x 0.1ml</td>
</tr>
<tr>
<td>OxiRed Probe</td>
<td>Red</td>
<td>1 x 0.2ml</td>
</tr>
<tr>
<td>Peroxidase Assay Buffer</td>
<td>WM</td>
<td>1 x 25ml</td>
</tr>
</tbody>
</table>

**Relevance**
Horseradish Peroxidase (HRP) is an enzyme commonly used as an indicator for chemical
reactions which produce peroxide. The enzyme is routinely conjugated to antibodies for use in enzyme-based immunoassay systems. HRP functions in the removal of H2O2 (hydrogen peroxide), oxidation of toxic reductants, biosynthesis and degradation of lignin, suberization, auxin catabolism, response to environmental stresses such as wounding, pathogen attack and oxidative stress. These functions might be dependent on each isozyme/isoform in each plant tissue.

**Cellular localization**

Secreted Probable. Vacuole Probable. Note: Carboxy-terminal extension appears to target the protein to vacuoles.

**Images**

- An example of a Fluorimetric Standard Curve
- An example of a Colorimetric Standard Curve

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