

### CYP2D6 Activity Assay Kit (Fluorometric) ab211078

3 Images

#### Overview

<b>Product name</b>	CYP2D6 Activity Assay Kit (Fluorometric)
<b>Detection method</b>	Fluorescent
<b>Sample type</b>	Cell Lysate, Microsomes, Tissue Lysate
<b>Assay type</b>	Enzyme activity (quantitative)
<b>Species reactivity</b>	<b>Reacts with:</b> Mammals, Other species
<b>Product overview</b>	CYP2D6 Activity Assay Kit (Fluorometric) (ab211078) allows rapid measurement of native or recombinant cytochrome P450 2D6 (CYP2D6) activity in biological samples such as liver microsomes. The assay utilizes a non-fluorescent CYP2D6-selective substrate that is converted into a highly fluorescent metabolite detected in the visible range (Ex/Em = 390/468 nm), ensuring a high signal-to-background ratio with little interference by autofluorescence. CYP2D6 specific activity is calculated by running parallel reactions in the presence and absence of the potent CYP2D6-selective inhibitor quinidine and subtracting any residual activity detected with the inhibitor present.

The kit contains enough reagents to perform 100 sets of paired reactuibs (in presence/absence of inhibitor).

<b>Notes</b>	<p>This product is manufactured by BioVision, an Abcam company and was previously called K703 Cytochrome P450 2D6 (CYP2D6) Activity Assay Kit (Fluorometric). K703-200 is the same size as the 200 test size of ab211078.</p> <p>Cytochrome P450 2D6 (CYP2D6, EC 1.14.14.1) is a member of the cytochrome P450 monooxidase (CYP) family of microsomal xenobiotic metabolism enzymes. CYPs are membrane-bound hemeproteins responsible for Phase I biotransformation reactions, in which lipophilic drugs and other xenobiotic compounds are converted to more hydrophilic products to facilitate excretion from the body. CYP2D6 catalyzes oxidation of lipophilic bases with an aromatic ring and a nitrogen atom and is highly expressed in liver and brain tissue. The enzyme is responsible for metabolism of nearly 25% of all small molecule drugs commonly used by humans, particularly psychiatric drugs such as antidepressants, antipsychotics and stimulants. The CYP2D6 gene is highly polymorphic in the human population, with CYP2D6 activity ranging from complete metabolic deficiency to ultra-rapid metabolism. Due to this wide phenotypic variability, CYP2D6 is frequently implicated in drug toxicity and clinical drug/drug interactions.</p>
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<b>Platform</b>	Microplate reader
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Properties

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

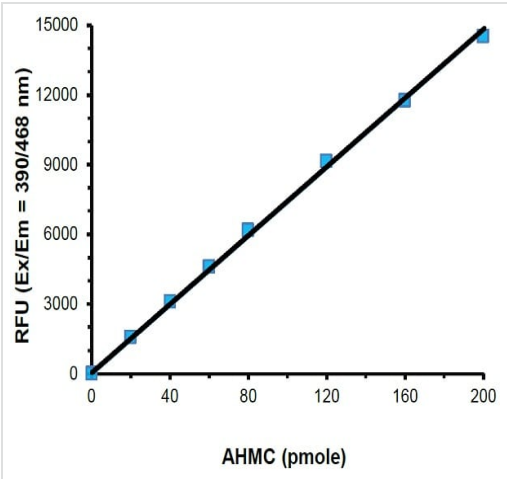
Components	200 tests
β-NADP <sup>+</sup> Stock 100X (2 mg)	1 vial
AHMC Standard	1 x 25µl
CYP2D6 Assay Buffer	1 x 100ml
CYP2D6 Inhibitor (Quinidine) (150 µg)	1 vial
CYP2D6 Substrate (200 µg)	1 vial
NADPH Generating System 100X (25 mg)	1 vial
Recombinant Human CYP2D6 (15 mg)	1 vial

**Function**                                      Responsible for the metabolism of many drugs and environmental chemicals that it oxidizes. It is involved in the metabolism of drugs such as antiarrhythmics, adrenoceptor antagonists, and tricyclic antidepressants.

**Sequence similarities**                      Belongs to the cytochrome P450 family.

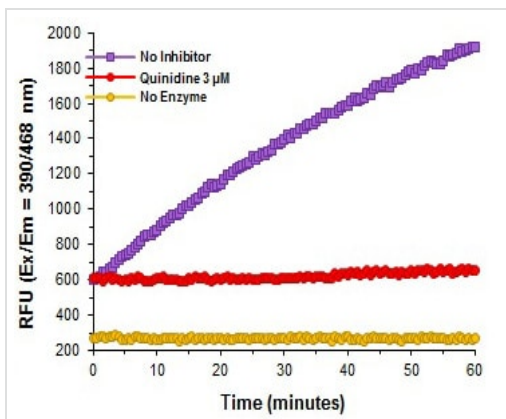
**Cellular localization**                      Endoplasmic reticulum membrane. Microsome membrane.

Images



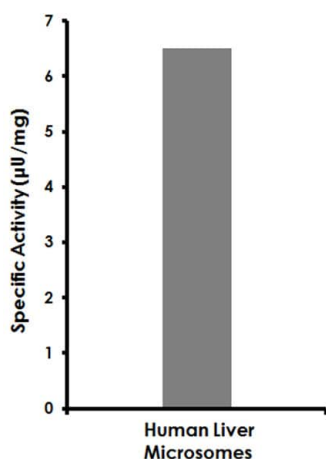
Typical AHMC standard calibration curve. One mol of AHMC corresponds to the metabolism of one mol of CYP2D6 substrate.

CYP2D6 Activity Assay Kit (Fluorometric)  
(ab211078)



Reaction kinetics of fluorogenic substrate metabolism in human liver microsomes (0.5 mg/mL) at 37°C in the presence and absence of the selective CYP2D6 inhibitor quinidine (the no inhibitor reaction contained a final concentration of 0.5% acetonitrile).

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Specific activity of CYP2D6 in pooled human liver microsome sample (0.5 mg/mL).

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

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