

# Human ATP Synthase ELISA Kit (Complex V) Profiling ELISA Kit ab124539

[5 References](#) [3 图像](#)

### 概述

**产品名称** 人ATP Synthase ELISA试剂盒(Complex V) Profiling ELISA试剂盒

**检测方法** Colorimetric

**精确度** 批次内

| 样品      | n | Mean | SD | CV%  |
|---------|---|------|----|------|
| Overall | 4 |      |    | 2.3% |

批次间

| 样品      | n | Mean | SD | CV%  |
|---------|---|------|----|------|
| Overall | 3 |      |    | 3.5% |

**样品类型** Tissue Extracts, Cell Lysate

**检测类型** Sandwich (qualitative)

**灵敏度** 12 µg/ml

**范围** 12 µg/ml - 1000 µg/ml

**实验步骤** Multiple steps standard assay

**种属反应性** **与反应:** Human

**不与反应:** Mouse, Rat

**产品概述** ATP synthase (Complex V) is the fifth enzyme of the oxidative phosphorylation (OXPHOS) system within the mitochondrial inner membrane. ATP synthase is a large protein complex of approximately 550,000 MW made up of 17 different subunits arranged in a membrane embedded proton translocating domain (F0 domain) and a soluble ATP synthesizing catalytic domain (F1 domain). Two membrane embedded subunits ATP6 (subunit a) and ATP8 (subunit 8) are encoded on mitochondrial DNA (mtDNA). All other subunits are encoded by nuclear genomic DNA, made in the cytosol, and translocated into the organelle for assembly at the inner membrane. A proton gradient generated by the other enzymes of the OXPHOS system provides the energy for ATP synthesis by a rotational catalytic method known as the binding change mechanism. ATP synthase is regulated by Cabl and IF1 proteins in response to calcium concentration and mitochondrial membrane potential respectively.

ab124539 ATP synthase (Complex V) human profiling kit is an in vitro enzyme-linked immunosorbent assay (ELISA) for the comparison of ATP synthase levels or profile in cell and tissue lysates. The assay employs a capture antibody specific for human ATP synthase coated onto microplate well strips.

Samples are pipetted into the wells and ATP synthase present in the sample is bound to the wells by the immobilized antibody. The wells are washed and an anti-ATP synthase detector antibody is added. After washing away unbound detector antibody, an HRP-conjugated secondary antibody specific for the detector antibody is pipetted into the wells. The wells are again washed, an HRP substrate solution (TMB) is added to the wells and color develops in proportion to the amount of ATP synthase bound. The developing blue color is measured at 600 nm.

Optionally the reaction can be stopped by adding hydrochloric acid which changes the color from blue to yellow and the intensity can be measured at 450 nm.

Species– Human. Rat and Mouse samples are not appropriate, other species are untested.

**说明**

Store all components at 4°C. This kit is stable for 6 months from receipt. Unused microplate strips should be returned to the pouch containing the desiccant and resealed.

**平台**

Microplate

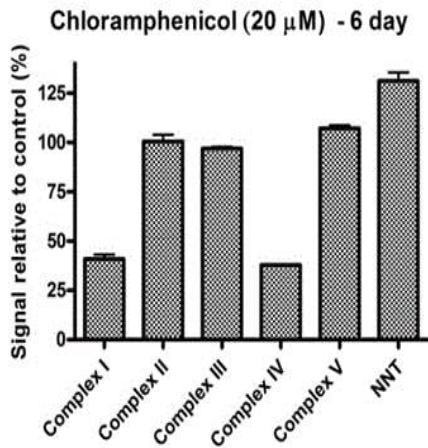
**性能**

**存放说明**

Store at +4°C. Please refer to protocols.

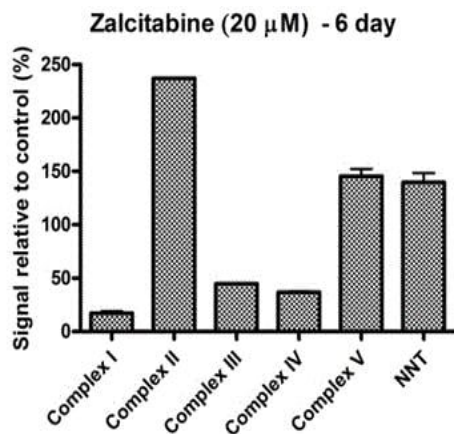
| 组件                                 | 1 x 96 tests |
|------------------------------------|--------------|
| 10X ATP Synthase Detector Antibody | 1 x 1ml      |
| 10X Blocking Buffer                | 1 x 6ml      |
| 10X HRP Label                      | 1 x 1ml      |
| 20X Buffer                         | 1 x 20ml     |
| ATP Synthase Microplate            | 1 unit       |
| Extraction Buffer (ab260490)       | 1 x 15ml     |
| HRP Development Solution           | 1 x 12ml     |

**图片**



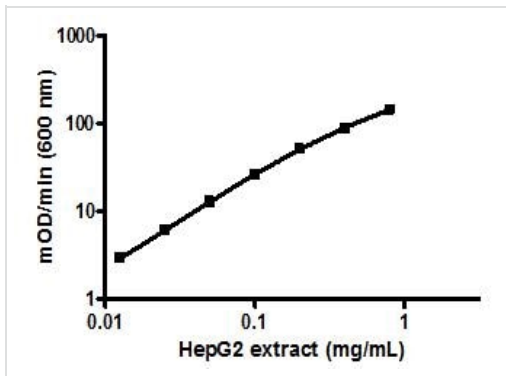
Sandwich ELISA - Human ATP Synthase (Complex V) Human Profiling ELISA Kit (ab124539)

Human HepG2 cells were cultured in chloramphenicol for 6 days to ensure a significant effect on mitochondrial DNA replication and mitochondrial protein translation, respectively. The antibiotic inhibited mitochondrial protein translation and assembly of Complexes I and IV but had no significant effect on Complex II, III or V.



Sandwich ELISA - Human ATP Synthase (Complex V) Human Profiling ELISA Kit (ab124539)

Human HepG2 cells were cultured in NARTI Zalcitabine (ddC) for 6 days to ensure a significant effect on mitochondrial DNA replication and mitochondrial protein translation, respectively. The drug reduced mitochondrial DNA levels and hence mitochondrial protein expression. As a consequence the assembly of Complexes I, III and IV were severely affected. Note that loss of the two small mitochondrial DNA encoded subunits of Complex V (ATP synthase) does not affect overall assembly. Interestingly an increase in Complex II was induced as a consequence of I, III, IV loss possibly to up regulate mitochondrial citric acid cycle function.



Example sample control curve of serially titrated HepG2 extract in the working range of the assay.

Sandwich ELISA - Human ATP Synthase (Complex V) Human Profiling ELISA Kit (ab124539)

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

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