abcam

Product datasheet

Human Bax ELISA Kit ab199080

Recombinant SimpleStep ELISA

11 References 5 Images

Overview

Product name Human Bax ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Tissue Ext.	3			3.8%

Inter-assay

Sample	n	Mean	SD	CV%
Tissue Ext.	5			3.2%

Sample type Cell culture extracts, Tissue Extracts

Assay type Sandwich (quantitative)

Sensitivity 2.2 pg/ml

Range 12.5 pg/ml - 800 pg/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Cell culture extracts	98	86% - 108%
Tissue Extracts	99	87% - 109%

Assay time 1h 30m

Assay duration One step assay

Species reactivity **Reacts with:** Human

Product overview **Human Bax SimpleStep ELISA® kit (ab199080) has been re-developed with new capture and detector antibodies. We have identified new recombinant monoclonal antibodies to use in the SimpleStep ELISA platform that provide a higher sensitivity when quantifying Bax protein in human cell and tissue extracts.**

Bax *in vitro* SimpleStep ELISA® (Enzyme-Linked Immunosorbent Assay) kit is designed for the quantitative measurement of Bax protein in human cell and tissue extracts.

The SimpleStep ELISA® employs an affinity tag labeled capture antibody and a reporter conjugated detector antibody which immunocapture the sample analyte in solution. This entire complex (capture antibody/analyte/detector antibody) is in turn immobilized via immunoaffinity of an anti-tag antibody coating the well. To perform the assay, samples or standards are added to the wells, followed by the antibody mix. After incubation, the wells are washed to remove unbound material. TMB substrate is added and during incubation is catalyzed by HRP, generating blue coloration. This reaction is then stopped by addition of Stop Solution completing any color change from blue to yellow. Signal is generated proportionally to the amount of bound analyte and the intensity is measured at 450 nm. Optionally, instead of the endpoint reading, development of TMB can be recorded kinetically at 600 nm.

Bax accelerates cell death by binding to and antagonizing the apoptosis repressor, BCL2. It undergoes a translocation to the mitochondrion membrane during cell stress, leading to the release of cytochrome c which then triggers apoptosis.

Notes

Bax is a pro-apoptotic factor of Bcl-2 family. It accelerates programmed cell death by binding to, and antagonizing the apoptosis repressor BCL2 or its adenovirus homolog E1B 19k protein. Under stress conditions, Bax undergoes a conformation change that causes translocation to the mitochondrion membrane, leading to the release of cytochrome c that then triggers apoptosis. Bax promotes activation of CASP3, and thereby apoptosis. Under a normal conditions, Bax colocalizes with 14-3-3 proteins in the cytoplasm. Under stress conditions, Bax undergoes a conformation change that causes release from JNK-phosphorylated 14-3-3 proteins and translocation to the mitochondrion membrane. Bax forms higher oligomers under stress conditions. Bax interacts with BCL2L11. The interaction with BCL2L11 promotes BAX oligomerization and association with mitochondrial membranes, with subsequent release of cytochrome c. Bax forms heterodimers with BCL2, E1B 19K protein, BCL2L1 isoform Bcl-X(L), BCL2L2, MCL1 and A1. Bax interacts with SH3GLB1 and HN. Bax interacts with SFN and YWHAZ; the interaction occurs in the cytoplasm. Under stress conditions, JNK-mediated phosphorylation of SFN and YWHAZ, releases BAX to mitochondria. Bax isoform Sigma interacts with BCL2A1 and BCL2L1 isoform Bcl-X(L). Bax interacts with RNF144B, which regulates the ubiquitin-dependent stability of BAX. Bax interacts with CLU under stress conditions that cause a conformation change leading to BAX oligomerization and association with mitochondria. Bax does not interact with CLU in unstressed cells. Bax interacts with FAIM2/LFG2. Bax interacts with human cytomegalovirus/HHV-5 protein vMIA/UL37. Bax interacts with BOP/C22orf29.

Abcam has not and does not intend to apply for the REACH Authorisation of customers' uses of products that contain European Authorisation list (Annex XIV) substances.
It is the responsibility of our customers to check the necessity of application of REACH Authorisation, and any other relevant authorisations, for their intended uses.

Platform

Microplate (12 x 8 well strips)

Properties

Storage instructions

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

Components	1 x 96 tests
10X Human Bax Capture Antibody	1 x 600µl
10X Human Bax Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
50X Cell Extraction Enhancer Solution (ab193971)	1 x 1ml
5X Cell Extraction Buffer PTR (ab193970)	1 x 10ml
Antibody Diluent 5BI	1 x 6ml
Human Bax Lyophilized Recombinant Protein	2 vials
Plate Seals	1 unit
Sample Diluent NS (ab193972)	1 x 12ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

Function Accelerates programmed cell death by binding to, and antagonizing the apoptosis repressor BCL2 or its adenovirus homolog E1B 19k protein. Under stress conditions, undergoes a conformation change that causes translocation to the mitochondrion membrane, leading to the release of cytochrome c that then triggers apoptosis. Promotes activation of CASP3, and thereby apoptosis.

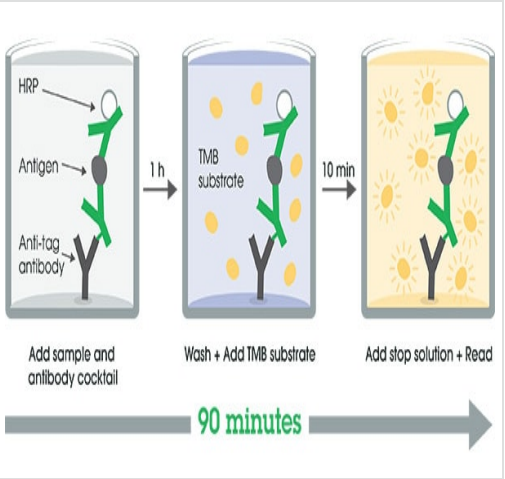
Tissue specificity Expressed in a wide variety of tissues. Isoform Psi is found in glial tumors. Isoform Alpha is expressed in spleen, breast, ovary, testis, colon and brain, and at low levels in skin and lung. Isoform Sigma is expressed in spleen, breast, ovary, testis, lung, colon, brain and at low levels in skin. Isoform Alpha and isoform Sigma are expressed in pro-myelocytic leukemia, histiocytic lymphoma, Burkitt's lymphoma, T-cell lymphoma, lymphoblastic leukemia, breast adenocarcinoma, ovary adenocarcinoma, prostate carcinoma, prostate adenocarcinoma, lung carcinoma, epidermoid carcinoma, small cell lung carcinoma and colon adenocarcinoma cell lines.

Sequence similarities Belongs to the Bcl-2 family.

Domain Intact BH3 motif is required by BIK, BID, BAK, BAD and BAX for their pro-apoptotic activity and for their interaction with anti-apoptotic members of the Bcl-2 family.

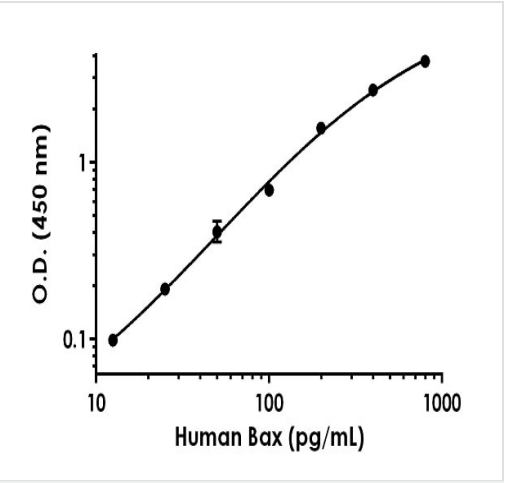
Cellular localization Cytoplasm and Mitochondrion membrane. Cytoplasm. Colocalizes with 14-3-3 proteins in the cytoplasm. Under stress conditions, undergoes a conformation change that causes release from JNK-phosphorylated 14-3-3 proteins and translocation to the mitochondrion membrane.

Images



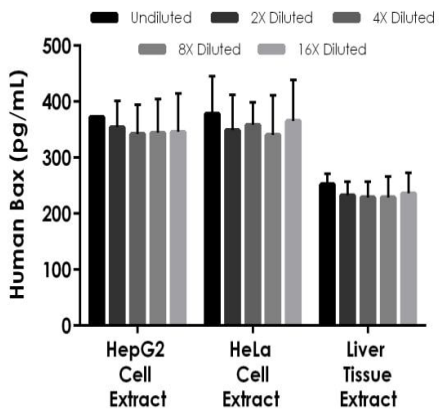
Other - Human Bax ELISA Kit (ab199080)

SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.



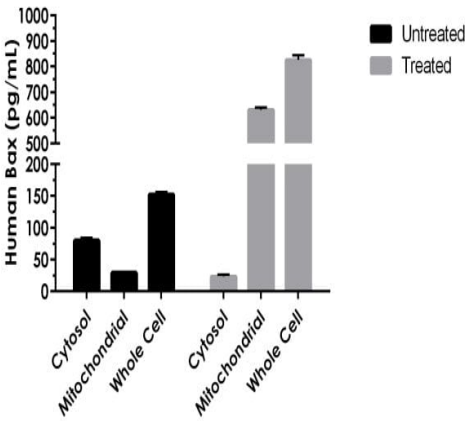
Example of human Bax standard curve in 1X Cell Extraction Buffer PTR

Background-subtracted data values (mean +/- SD) are graphed.



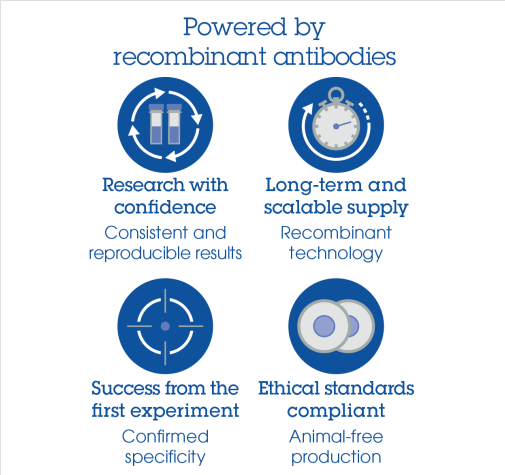
Interpolated concentrations of native Bax in human HepG2 cell extract, and HeLa cell extract and liver tissue extract

Interpolated concentrations of native Bax in human HepG2 cell extract based on a 10 µg/mL extract load, and HeLa cell extract and liver tissue extract based on a 20 µg/mL extract load. The concentrations of Bax were measured in duplicate and interpolated from the Bax standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Bax concentration was determined to be 351.9 pg/mL in HepG2 cell extract, 358.5 pg/mL in HeLa cell extract, and 235.8 pg/mL in liver tissue extract.



Comparison of Bax distribution in subcellular fractions derived from 3.7x103 HeLa cells and whole cells cultured in the presence (treated) or absence (untreated) of 1 µM staurosporine for 4 hours

Cells were collected directly after treatment and subcellular fractions were prepared using a cell fractionation kit (**ab109719**). The concentrations of Bax were measured in three different dilutions of the fraction samples in duplicates and interpolated from the Bax standard curve. The interpolated values are plotted (mean +/- SD, n=3). The mean Bax concentration was determined be 79.66 pg/mL in the untreated cytosol fraction, 29.30 pg/mL in the untreated mitochondrial fraction, 152.1 pg/mL in the untreated whole cell sample, 23.15 pg/mL in the treated cytosol fraction, 631.5 pg/mL in the treated mitochondrial fraction, and 825.4 pg/mL in the treated whole cell sample.



Sandwich ELISA - Human Bax ELISA Kit

(ab199080)

To learn more about the advantages of recombinant antibodies see **here**.

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

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit **https://www.abcam.com/abpromise** or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors