

Product datasheet

Human B2M (beta 2 Microglobulin) knockout Hep G2 cell pellet ab278904

[4 Images](#)

Overview

Product name	Human B2M (beta 2 Microglobulin) knockout Hep G2 cell pellet
Product overview	<p>Abcam's knockout cell pellets give you access to native proteins, without the need to culture cells. Our knockout cell pellets are prepared from our single-gene knockout cell lines and provide an additional offering to our cell lysates.</p> <p>Cells are snap-frozen to provide high quality pellets that are suitable for extraction with alternative lysis buffers or for preparation of lysates from subcellular fractions. Our knockout cell pellets are suitable for a variety of applications, including PCR, gene expression profiling and DNA library preparation.</p>
Parental Cell Line	HepG2
Organism	Human
Mutation description	Knockout achieved by using CRISPR/Cas9, 1 bp insertion in exon1 and Insertion of the selection cassette in exon1.
Passage number	<20
Knockout validation	Sanger Sequencing, Western Blot (WB)
Notes	<p>Pellet size: 5 million cells/vial.</p> <p>This product is subject to limited use licenses from The Broad Institute, ERS Genomics Limited and Sigma-Aldrich Co. LLC, and is developed with patented technology. For full details of the licenses and patents please refer to our limited use license and patent pages.</p>
Tested applications	Suitable for: WB

Properties

Storage instructions Store at -80°C. Please refer to protocols.

Components	1 kit
Human B2M knockout HepG2 cell pellet	1 vial
Human wild-type HepG2 cell pellet	1 vial

Cell type epithelial
Disease Hepatocellular Carcinoma

Target

Function Component of the class I major histocompatibility complex (MHC). Involved in the presentation of peptide antigens to the immune system.

Involvement in disease Defects in B2M are the cause of hypercatabolic hypoproteinemia (HYCATHYP) [MIM:241600]. Affected individuals show marked reduction in serum concentrations of immunoglobulin and albumin, probably due to rapid degradation. Note=Beta-2-microglobulin may adopt the fibrillar configuration of amyloid in certain pathologic states. The capacity to assemble into amyloid fibrils is concentration dependent. Persistently high beta(2)-microglobulin serum levels lead to amyloidosis in patients on long-term hemodialysis.

Sequence similarities Belongs to the beta-2-microglobulin family. Contains 1 Ig-like C1-type (immunoglobulin-like) domain.

Post-translational modifications Glycation of Ile-21 is observed in long-term hemodialysis patients.

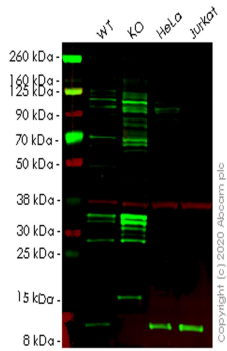
Cellular localization Secreted. Detected in serum and urine.

Applications

The Abpromise guarantee Our [Abpromise guarantee](#) covers the use of ab278904 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		Use at an assay dependent concentration. Predicted molecular weight: 14 kDa.

Images



Western blot - Human B2M (beta 2 Microglobulin) knockout HepG2 cell pellet (ab278904)

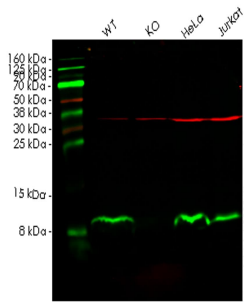
Lane 1: Wild-type HepG2 cell lysate (20 ug)

Lane 2: B2M knockout HepG2 cell lysate (20 ug)

Lane 3: HeLa cell lysate (20 ug)

Lane 4: Jurkat cell lysate (20 ug)

[ab75853](#) was shown to specifically react with beta 2 Microglobulin in wild-type HepG2 cells. Loss of signal was observed when knockout cell line [ab262325](#) (knockout cell lysate [ab256846](#)) was used. Wild-type and beta 2 Microglobulin knockout samples were subjected to SDS-PAGE. [ab75853](#) and Anti-GAPDH antibody [6C5] - Loading Control ([ab8245](#)) were incubated overnight at 4°C at 1 in 1000 dilution and 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed ([ab216773](#)) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed ([ab216776](#)) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.



Western blot - Human B2M (beta 2 Microglobulin) knockout HepG2 cell pellet (ab278904)

Lane 1: Wild-type HepG2 cell lysate (20 ug)

Lane 2: B2M knockout HepG2 cell lysate (20 ug)

Lane 3: HeLa cell lysate (20 ug)

Lane 4: Jurkat cell lysate (20 ug)

[ab218230](#) was shown to specifically react with beta 2 Microglobulin in wild-type HepG2 cells. Loss of signal was observed when knockout cell line [ab262325](#) (knockout cell lysate [ab256846](#)) was used. Wild-type and beta 2 Microglobulin knockout samples were subjected to SDS-PAGE. [ab218230](#) and Anti-GAPDH antibody [6C5] - Loading Control ([ab8245](#)) were incubated overnight at 4°C at 1 in 500 dilution and 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed ([ab216773](#)) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed ([ab216776](#)) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

```

Mut  CTGACAGCATTGGGGCCGAGATGTCTCGCTTCCGTGGCCTTAGCTGTGCTCGCGCTACTC
      |||
WT   CTGACAGCATTGGGGCCGAGATGTCTCGCT  CCGTGGCCTTAGCTGTGCTCGCGCTACTC
  
```

Sanger Sequencing - Human B2M (beta 2 Microglobulin) knockout HepG2 cell pellet (ab278904)

Allele-1: 1 bp insertion in exon1

Mut	TCGGGCCGAGATGCTCGCT*****Insertion*****CCGTGGCCTTAGCTGTGCTC
WT	TCGGGCCGAGATGCTCGCT CCGTGGCCTTAGCTGTGCTC

Sanger Sequencing - Human B2M (beta 2
Microglobulin) knockout HepG2 cell pellet
(ab278904)

Allele-2: Insertion of the selection cassette in exon1

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