

Quick Start and Tutorial for AbMiner

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Overview

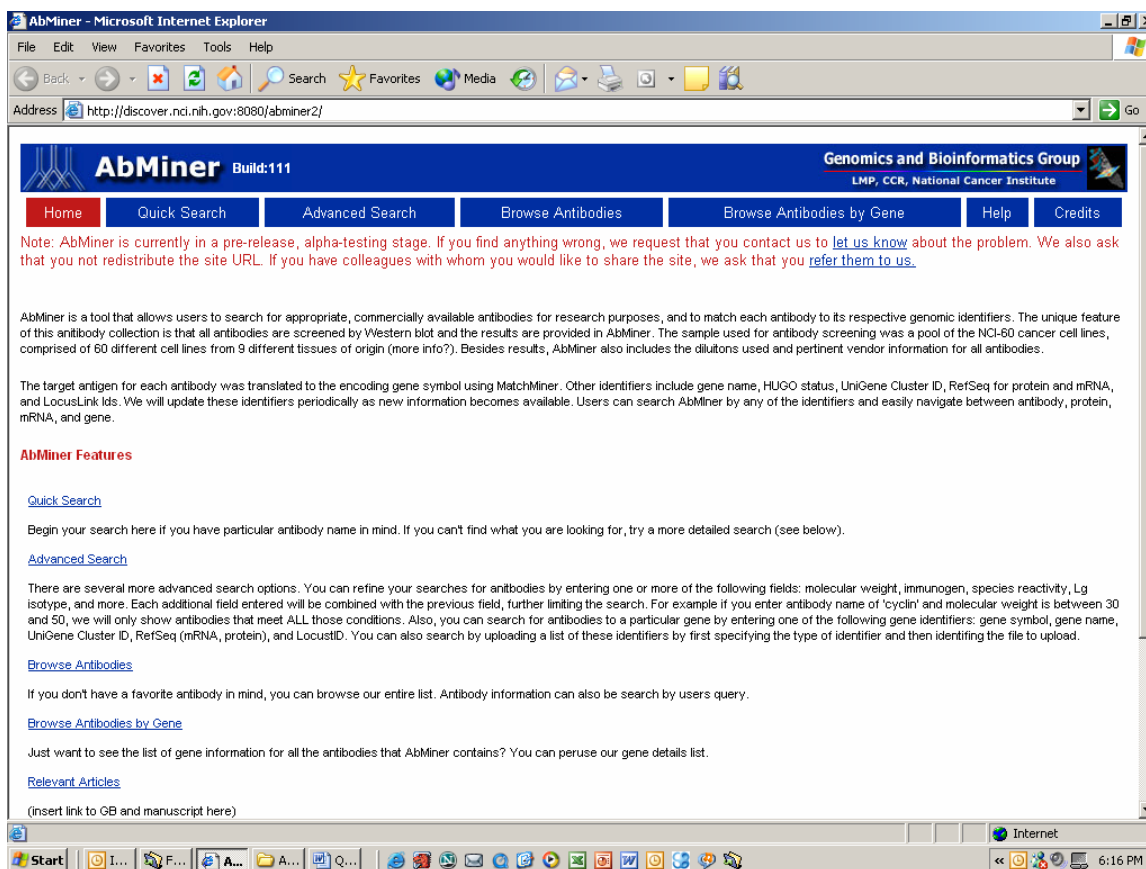
AbMiner is a tool that allows users to search for appropriate, commercially available antibodies for research purposes, and to match each antibody to its respective genomic identifiers. The unique feature of this antibody collection is that all antibodies are screened by Western blot and the results are provided in terms of the band pattern across the pool of the NCI-60 cancer cell lines, comprised of 60 different cell lines from 9 different tissues of origin. Besides results, AbMiner also includes recommended dilutions and pertinent vendor information for all antibodies.

The target antigen for each antibody was translated to the encoding gene symbol using MatchMiner. Other identifiers include gene name, HUGO status, UniGene Cluster ID, RefSeq for protein and mRNA, and LocusLink Ids. We will update these identifiers periodically as new information becomes available. Users can search antibodies by any of these identifiers.

Using AbMiner

The homepage for AbMiner looks like the following:

Figure 1: AbMiner Home Page

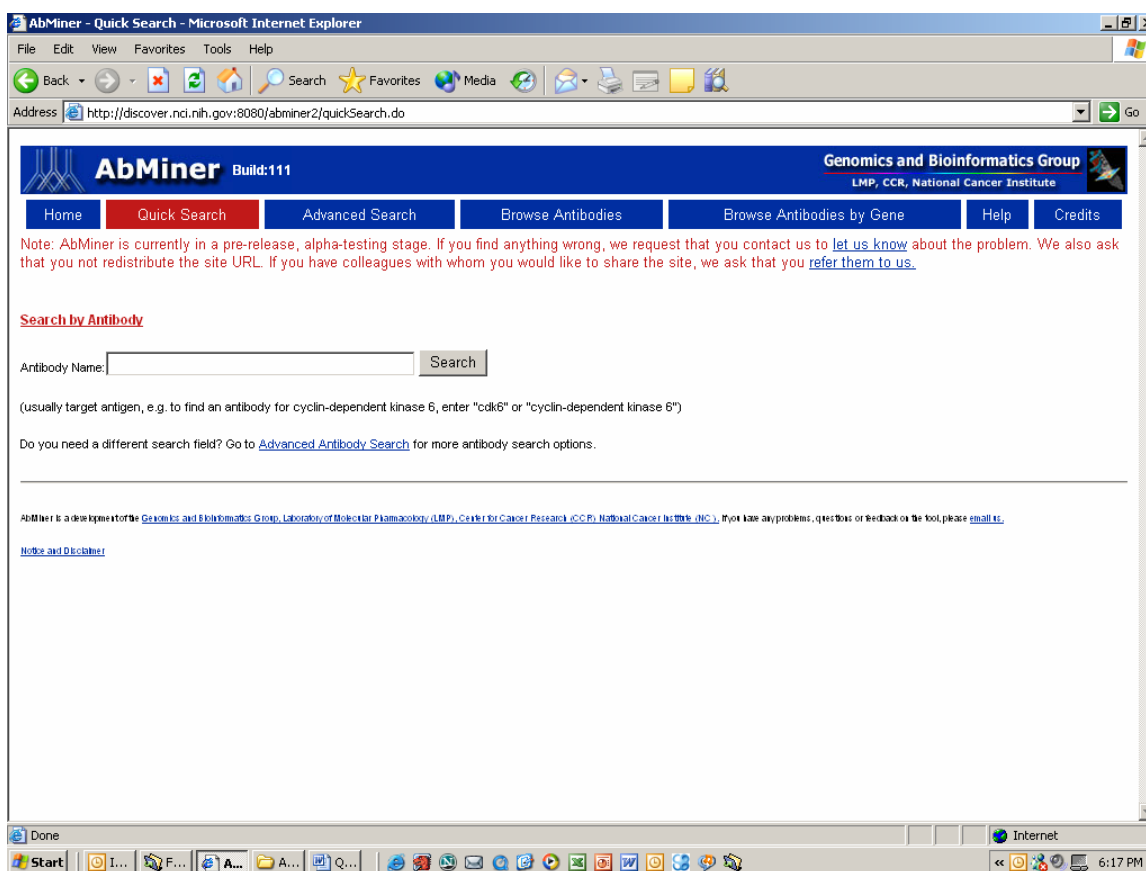


By clicking on the buttons on the top, the user can choose the appropriate searches described in detail below. Examples are provided as well. Before proceeding, please download the example files located under Help to your home machine. Keep track of where you save them.

Quick Search

The Quick Search permits the input of a single identifier for quick querying.

Figure 2: Quick Search



1. With this function, AbMiner searches antibody by an "Antibody Name". An Antibody Name refers to the product name provided by vendors. In general, the Antibody Name is equal to the target protein of the antibody. If you are not sure what the Antibody Name of your gene of interest is, you may need to translate the identifier using MatchMiner.
2. Here is an example: "p53" is the protein encoded by a gene called "TP53". To find antibodies that recognize p53, you need to type a "common" antibody name for the TP53 protein - "p53".
3. Type "p53" in Antibody Name.

Figure 3: Data entry in the Quick Search page

AbMiner - Quick Search - Microsoft Internet Explorer

Address: <http://discover.nci.nih.gov/abminer2/quickSearch.do>

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LMP, CCR, National Cancer Institute

Home Quick Search Advanced Search Browse Antibodies Browse Antibodies by Gene Help Credits

Note: AbMiner is currently in a pre-release, alpha-testing stage. If you find anything wrong, we request that you contact us to [let us know](#) about the problem. We also ask that you not redistribute the site URL. If you have colleagues with whom you would like to share the site, we ask that you [refer them to us](#).

Search by Antibody

Antibody Name:

(usually target antigen, e.g. to find an antibody for cyclin-dependent kinase 6, enter "cdk6" or "cyclin-dependent kinase 6")

Do you need a different search field? Go to [Advanced Antibody Search](#) for more antibody search options.

AbMiner is developed for the Genomics and Bioinformatics Group, Laboratory of Molecular Pharmacology (LMP), Center for Cancer Research (CCR), National Cancer Institute (NCI). If you have any problems, questions or feedback on the tool, please email us.
[Home](#) and [Disclaimer](#)

4. Click "Search" button.

Figure 4: Antibody search results

AbMiner - Browse Antibodies - Microsoft Internet Explorer

Address: <http://discover.nci.nih.gov/abminer2/searchAntibody.do>

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Number of antibodies found: 18

Product Details	Antibody	Immunogen	Epitope	MW (kDa)	Validation Status	Validation Date	Dilution Used	Band Results	Gene (s)
	p53	recombinant p53	aa 37-45; aa 20-25	53	Complete	4/1/01	600	Single	TP53
	p53	aa195-393	not designated	53	Complete	11/12/02	500	Single	TP53
	p53	aa195-393	not designated	53	Complete	12/13/02	200	Multiple	TP53
	p53	human p53	aa1-45	53	Complete	2/28/03	100	Single	TP53
	p53	recombinant human p53	aa1-45	53	Complete	2/28/03	100	Single	TP53
	p53	SV40 transformed mouse BALB/c3T3 clone 4	not designated	53	Complete	4/23/03	50	Multiple	TP53
	p53	recombinant human truncated p53	aa32-79 (VVT and mutant)	53	Complete	4/23/03	100	Single	TP53
	p53	recombinant fusion of B-gal and p53 aa 14-289	aa156-214 conformation	53	Complete	6/3/03	100	Multiple w/ Target	TP53
	p53	recombinant full length human p53 in BEVS	not designated	53	Complete	6/3/03	100	Multiple w/ Target	TP53
	p53	aa195-393	not designated	53	Complete	6/19/03	500	Single	TP53
	p53 Ab-1	murine p53 protein aa12-289	aa212-217	53	Complete	12/13/02	100	Single	TP53

5. You will find a series of antibodies whose target (the antigen) is the p53 protein along with detailed information. On the header row, hypertext in each column provides the definition of terminology.

Advanced Search

The Advanced Search allows you to choose antibodies by details provided in Antibody Information.

Figure 5: Advanced Search page

1. In this view, you can search antibodies using more detailed information or gene identifiers.
2. In "Search Antibodies by Antibody Information", you can choose 6 categories of detailed antibody information. The search results will be a list of antibodies with detailed antibody information.

Figure 6: Antibody search results page

AbMiner - Browse Antibodies - Microsoft Internet Explorer

Address: <http://discover.nci.nih.gov/abminer2/searchAntibody.do>

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Home Quick Search Advanced Search **Browse Antibodies** Browse Antibodies by Gene Help Credits

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Number of antibodies found: 18

Show list of gene details for these Antibodies

Product Details	Antibody	Immunogen	Epitope	MW (kDa)	Validation Status	Validation Date	Dilution Used	Band Results	Gene(s)
	p53	recombinant p53	aa 37-45; aa 20-25	53	Complete	4/1/01	600	Single	TP53
	p53	aa195-393	not designated	53	Complete	11/12/02	500	Single	TP53
	p53	aa195-393	not designated	53	Complete	12/13/02	200	Multiple	TP53
	p53	human p53	aa1-45	53	Complete	2/28/03	100	Single	TP53
	p53	recombinant human p53	aa1-45	53	Complete	2/28/03	100	Single	TP53
	p53	SV40 transformed mouse BALB/c3T3 clone 4	not designated	53	Complete	4/23/03	50	Multiple	TP53
	p53	recombinant human truncated p53	aa32-79 (VVT and mutant)	53	Complete	4/23/03	100	Single	TP53
	p53	recombinant fusion of B-gal and p53 aa 14-289	aa156-214 conformation	53	Complete	6/3/03	100	Multiple w/ Target	TP53
	p53	recombinant full length human p53 in BEVS	not designated	53	Complete	6/3/03	100	Multiple w/ Target	TP53
	p53	aa195-393	not designated	53	Complete	6/19/03	500	Single	TP53
	p53 Ab-1	murine p53 protein aa12-289	aa212-217	53	Complete	12/13/02	100	Single	TP53

- In "Search Antibodies by Single Gene Identifier", you can search antibodies from gene identifiers. The results will be a list of antibodies (shown in hypertext) with detailed information of the gene. By clicking the hypertext, more information of each antibody or gene will be provided by links in AbMiner or other databases.

Figure 7: Gene search results page

AbMiner - Browse Genes - Microsoft Internet Explorer

Address: <http://discover.nci.nih.gov:8080/abminer2/searchGene.do>

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Home Quick Search Advanced Search Browse Antibodies **Browse Antibodies by Gene** Help Credits

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Number of antibodies found: 18

Show Antibody details list

Antibody	gene symbol	symbol status	gene name	UniGene cluster Id	RefSeq (mRNA)	RefSeq (protein)	category	locusID
<ul style="list-style-type: none"> • p53 • p53 • p53 Ab-1 • p53 • p53 Ab-1 • p53 • p53 • p53 Ab-3 • p53 • p53 Ab-6 • p53 • p53 • p53 tumor suppressor protein • p53 • p53 Ab-2 • p53 • Phospho-p53 (Ser15) 16G8 • mAb • p53 Ab-5 	TP53	Approved	tumor protein p53 (Li-Fraumeni syndrome)	Hs.408312	NM_000546	NP_000537	Reviewed	7157

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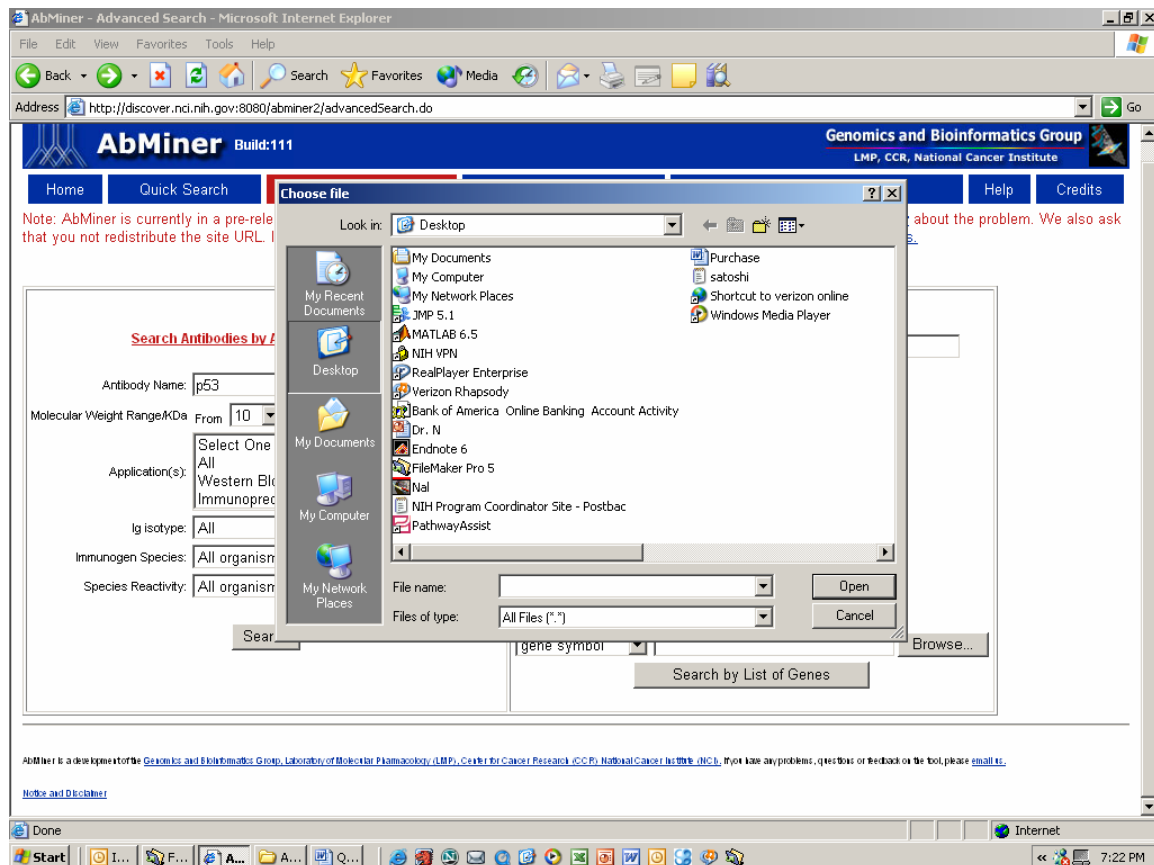
4. To search antibodies by batch, you need to prepare a list of identifiers. Here is an example using symbol.txt which you can download from the Help menu. The symbol.txt file is a simple 1-column gene list.

ACVR2
 ADPRT
 AKAP5
 AKAP8
 BCAR1
 CASP2
 CASP7
 CASP7
 CCNA2
 CCNB1
 CCNE
 CD45RB
 CD74
 CDC2
 CDC6
 CDH1
 CDH1
 CDH2

CDK4

Click Browse button to set the path. Then click "Search by List of Genes".

Figure 8: Batch searching



The results will be a list of antibodies from many genes. Each hyperlink in the result table lets you access additional detailed information for an antibody or gene.

Figure 9: Gene search results page

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Home Quick Search Advanced Search Browse Antibodies **Browse Antibodies by Gene** Help Credits

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Number of antibodies found: 30

Show Antibody details list

Antibody	gene symbol	symbol status	gene name	UniGene cluster id	RefSeq (mRNA)	RefSeq (protein)	category	locusID
<ul style="list-style-type: none"> Actin Receptor, Type II (actRII) Ab-1 	ACVR2	Approved	activin A receptor, type II	Hs.369846	NM_001616	NP_001607	Reviewed	92
<ul style="list-style-type: none"> PARP PARP 	ADPRT	Approved	ADP-ribosyltransferase (NAD ⁺ ; poly (ADP-ribose) polymerase)	Hs.177766	NM_001618	NP_001609	Reviewed	142
<ul style="list-style-type: none"> AKAP79 	AKAP5	Approved	A kinase (PRKA) anchor protein 5	Hs.48714	NM_004857	NP_004848	Reviewed	9495
<ul style="list-style-type: none"> AKAP95 	AKAP8	Approved	A kinase (PRKA) anchor protein 8	Hs.25059	NM_005858	NP_005849	Reviewed	10270
<ul style="list-style-type: none"> p130Cas p130Cas 	BCAR1	Approved	breast cancer anti-estrogen resistance 1	Hs.273219	NM_014567	NP_055382	Validated	9564
<ul style="list-style-type: none"> Caspase-2/MCH-1L 	CASP2	Approved	caspase 2, apoptosis-related cysteine protease (neural precursor cell expressed, developmentally down-regulated 2)	Hs.433103	NM_032983 NM_001124 NM_032984 NM_032982	NP_116765 NP_001215 NP_116766 NP_116764	Reviewed Reviewed Reviewed Reviewed	835
<ul style="list-style-type: none"> Caspase 7 (Mch 3) Ab-1 Caspase-7/MCH-3 	CASP7	Approved	caspase 7, apoptosis-related cysteine protease	Hs.9216	NM_001227 NM_033339 NM_033340	NP_001218 NP_203125 NP_203126	Reviewed Reviewed Reviewed	840

Browse Antibodies

All antibodies in AbMiner will be displayed in alphabetical order. Details are provided by clicking the icon in Product Details.

Figure 10: Antibody search results page

AbMiner - Browse Antibodies - Microsoft Internet Explorer

Address: <http://discover.nci.nih.gov/abminer2/searchAntibody.do>

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Home Quick Search Advanced Search **Browse Antibodies** Browse Antibodies by Gene Help Credits

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Number of antibodies found: 635

Show list of gene details for these Antibodies

Product Details	Antibody	Immunogen	Epitope	MW (kDa)	Validation Status	Validation Date	Dilution Used	Band Results	Gene(s)
	(Pan)Actin	chicken gizzard actin	not designated	42	Complete	4/27/01	600	Single	ACTG1, ACTA2, ACTB, ACTA1, ACTC
	(Pan)Actin	gizzard actin	not designated	42	Complete	4/27/01	600	Single	ACTG1, ACTA2, ACTB, ACTA1, ACTC
	14-3-3 Sigma (Ab-1)	recombinant 14-3-3 sigma protein	not designated	26	To rescreen	6/17/03	100	Multiple w/ Target	SFN
	14-3-3e	aa60-242	not designated	29	Complete	12/18/02	1000	Single	YWHAE
	14.3.3 gamma (Ab-2)	14.3.3 gamma recombo human protein	not designated	28	Complete	12/1/02	0	Single	YWHAG
	14.3.3 gamma (Ab-3)	14.3.3 gamma recombo human protein	not designated	28	To rescreen	6/17/03	100	No Band	YWHAG
	53BP2	aa674-793	not designated	137	Complete	6/19/03	250	Single	TP53BP2
	a-Catenin	aa729-906	not designated	102	Complete	11/5/02	250	Multiple	CTNNA1
	ABL	tyrosine kinase domain; includes bcr-abl fusion	tyrosine kinase domain	145	Complete	12/9/02	5000	Single	ABL1
	ABP-280	aa2492-2647	not designated	280	Cued for western	n/a	n/a	n/a	FLNA

Browse Antibodies by Gene

You can browse antibodies sorted by their gene identifiers. If you click Browse Genes button, it will show you a list of antibodies in the database in alphabetical order by Gene Symbol. In addition to the antibody details, information for each gene, such as Unigene cluster, is accessible by clicking the hypertext. Please note that the number of antibodies found does not match with the number of antibodies found in "Browse Antibodies" due to many-to-many relationships between antibodies and genes.

Figure 11: Gene search results page

AbMiner - Browse Genes - Microsoft Internet Explorer

Address: <http://discover.nci.nih.gov/abminer2/searchGene.do>

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Home Quick Search Advanced Search Browse Antibodies **Browse Antibodies by Gene** Help Credits

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Number of antibodies found: 661

Show Antibody details list

Antibody	gene symbol	symbol status	gene name	UniGene cluster Id	RefSeq (mRNA)	RefSeq (protein)	category	locusID
<ul style="list-style-type: none"> Cryptococcus neoformans Biotin Endothelial marker (Small Blood Vessels) Ab-1 	A12M1	Entry withdrawn	entry withdrawn	-	-	-	-	-
<ul style="list-style-type: none"> Cryptococcus neoformans Biotin Endothelial marker (Small Blood Vessels) Ab-1 	A12M2	Entry withdrawn	entry withdrawn	-	-	-	-	-
<ul style="list-style-type: none"> Cryptococcus neoformans Biotin Endothelial marker (Small Blood Vessels) Ab-1 	A12M3	Entry withdrawn	entry withdrawn	-	-	-	-	-
<ul style="list-style-type: none"> Cryptococcus neoformans Biotin Endothelial marker (Small Blood Vessels) Ab-1 	A12M4	Entry withdrawn	entry withdrawn	-	-	-	-	-
<ul style="list-style-type: none"> p170 	ABCB1	Approved	ATP-binding cassette, sub-family B (MDR/TAP), member 1	Hs.21330	NM_000927	NP_000918	Reviewed	5243

Relevant Articles

[Nishizuka, et al. Cancer Res.](#), 63, 5243-5250, 2003

[Nishizuka, et al. PNAS](#) 100, 14229-14234, 2003

Additional Help and Information

You can also review the [protocol for antibody screening by Western blotting](#). You can also get to this document by clicking "Validation Status" in the header row in antibody search results.