



Immune Epitope Database Overview

www.iedb.org

Presented by: Alessandro Sette, IEDB Principal Investigator

Our goals for this user workshop

We want your input to make the IEDB better:

- Learn about real-life applications for the IEDB
- Identify and prioritize problems with the user interface, documentation, functionality etc.

We want to enable you to get the most out of the IEDB:

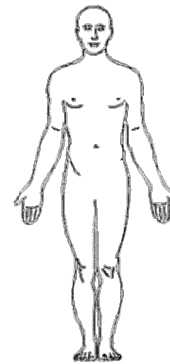
- The primary IEDB success metric is usage
- Best compliment for our program is if IEDB data & tools help in your research (citations)

Immune Epitope Database

www.iedb.org

Database | Resource of experimentally-derived epitope information

- Allergens
 - Infectious diseases
 - Autoimmune diseases
 - Transplantation / Alloantigens
- ... and more



Containing data on over **2.1 million unique structures** analyzed in over **6.4 million assays** from more than **23,200 curated references.**

Minimal Criteria for Epitope Inclusion

- Linear peptide <50 amino acids in length
- Tested as an immunogen or an antigen
- Discontinuous residues shown to be important in recognition
- Non-peptidic epitopes <5,000 Daltons
- Minimal information required (sequence, outcome, host, etc.)

Consistent data entry requires well defined data structure

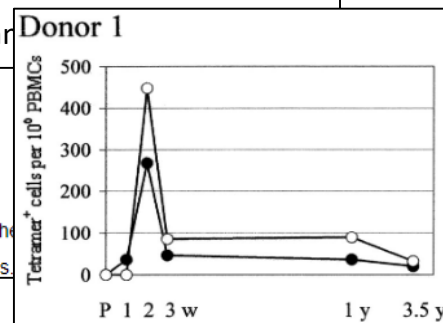
Quantitation of CD8+ T Cell Responses to Newly Identified HLA-A*0201–restricted T Cell Epitopes Conserved Among Vaccinia and Variola (Smallpox) Viruses

Masanori Terajima, John Cruz, Gregory Raines, Elizabeth D. Kilpatrick, Jeffrey S. Krenzelok, Francis A. Ennis

Materials And Methods

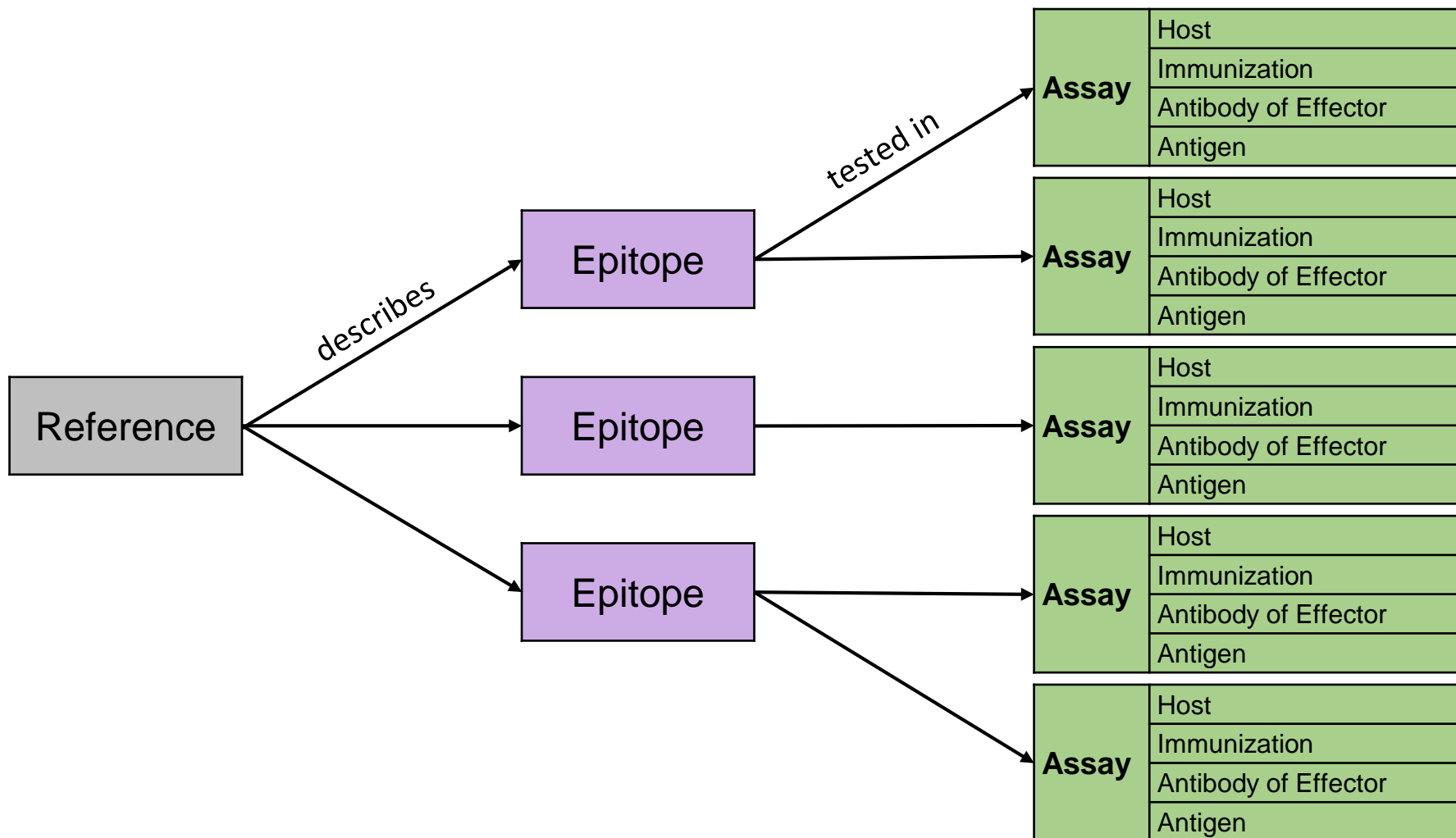
Donors.

Donors in this study were three HLA-A*0201–positive laboratory workers received primary immunization by scarification with the licensed smallpox vaccine, Dryvax®, as recommended by the Centers for Disease Control and Prevention for laboratory personnel working with vaccinia viruses.



Epitope	Structure	Name	74A
		Chemical Type	Peptide / Protein
		Sequence	CLTEYILWV
		Domain / Region	Defined Epitope
	Source	Species	Vaccinia Virus Ankara
		Strain	Ankara (MVA)
		Antigen	Putative 21.7k protein
		Antigen Accession	2772819
Context	Immunization	Antigen Positions	79-87
		Immunized Species	Homo sapiens
		Immunogen Type	Source species
	Assay	Administration	Scarification
		Antigen Type	Epitope
		Assay Type	ELISPOT
		Response Measured	Cytokine Release-IFN-g
		MHC Allele	HLA-A*0201

Data Structure: A Database of Experiments

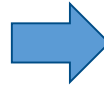


Collaborations with Ontologies

- Provides standardized nomenclature, definitions, synonyms, and hierarchical relationships
- Makes curation easier → Finders
- Enhances user experience → Finders
- Ensures consistency and accuracy
- Finds errors
- Facilitates interoperability

External Resources and Ontologies

Peptidic Epitope	Amino acid sequence
	Protein source
	Organism source



Human herpesvirus 5 (HHV-5)
 NCBI
 taxon:10359

ORGANISM FINDER

Current Selection(s) Reset Apply

Search By

Name:

Organism ID:

Clear Search

Browse by Tree (Click to Select)

- [-] Human herpesvirus 1
- [-] Human herpesvirus 2
- [-] Human herpesvirus 4 (Epstein Barr virus)
- [-] Human herpesvirus 5 (Human cytomegalovirus)
 - [-] Human herpesvirus 5 (strain RV798)
 - [-] Human herpesvirus 5 TB40
 - [-] Human herpesvirus 5 strain AD169
 - [-] Human herpesvirus 5 strain Merlin
 - [-] Human herpesvirus 5 strain Toledo

Search Results (Click to Select)

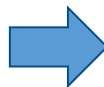
6 Records Found Page 1 of 2 5 Per Page

Organism Name	Synonyms	Organism ID
Cucumber mosaic virus (cucumber mosaic cucumovirus)	Cucumber mosaic virus, cucumber mosaic cucumovirus, cucumber mosaic virus CMV, cucumber mosaic cucumovirus CMV, cucumber mosaic virus, CMV, CMV	12305
Lymphocytic choriomeningitis mammarenavirus	Lymphocytic choriomeningitis mammarenavirus, Lymphocytic choriomeningitis virus, lymphocytic choriomeningitis virus LCMV, LCMV	11623
Murid betaherpesvirus 1 (Murine cytomegalovirus)	Murine cytomegalovirus, Murid betaherpesvirus 1, murine herpesvirus 1, murine cytomegalovirus MCMV, murine cytomegalovirus (MCMV), Murid herpesvirus 1, Mouse cytomegalovirus 1	10366
Human herpesvirus 5 (Human cytomegalovirus)	herpes virus 5,CMV,HHV5,HSV-5,HSV5, Human cytomegalovirus, Human betaherpesvirus 5, human herpesvirus type 5, Human herpesvirus 5, HHV-5	10359
Rhesus cytomegalovirus strain 68-1 (Rhesus cytomegalovirus (strain 68-1) (RhCMV))	Rhesus cytomegalovirus strain 68-1, Rhesus cytomegalovirus (strain 68-1) (RhCMV), Rhesus cytomegalovirus (strain 68-1)	103930

6 Records Found Page 1 of 2 5 Per Page

External Resources and Ontologies

Peptidic Epitope	Amino acid sequence
	Protein source
	Organism source



PKYVKQNTLKLAT
 hemagglutinin HA1
 GenBank/UniProt
 GI:AAL62329.1—UniProt:Q8V285

MOLECULE FINDER

Current Selection(s) Reset Apply

Search By

Name:

Molecule ID:

Source Organism: Finder

Search

Browse by Tree (Click to Select)

- [-] Bacteriophage (RNA) protein
- [-] Influenza virus protein
 - [-] Influenza A virus protein
 - [-] Hemagglutinin
 - signal peptide (1-17)
 - mature protein (18-565)
 - Hemagglutinin HA1 chain (18-342)
 - Hemagglutinin HA2 chain (344-565)
 - Matrix protein 1

Search Results (Click to Select)

53 Records Found Page 1 of 11 5 Per Page

Molecule Name	Synonyms	Database ID	Organism Name
Influenza A virus protein	influenza A, Influenza A virus, Human Influenza A Virus, Influenza virus type A, FLUAV	IEDB [11320]	Influenza A virus
Influenza B virus (Influenza virus type B) protein	Influenza B virus, Influenza virus type B, FLUBV	IEDB [11520]	Influenza B virus (Influenza virus type B)
Influenza C virus (Influenza C viruses) protein	Influenza C viruses, Influenza C virus, Influenza virus type C, FLUCV	IEDB [11552]	Influenza C virus (Influenza C viruses)

Literature Curation

PubMed / PDB

- Complex query
- Bi-weekly

240K retrieved

Classifier

- Content based categories
- Retrained annually

151K epitope related

Abstract Review

- Manual scan
- Confirmation of classification

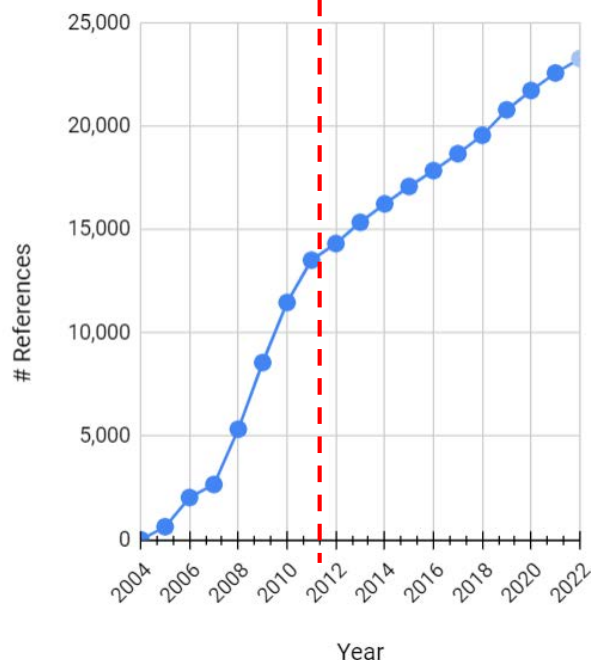
44K likely curatable

Manual Curation

- Assigned to curators
- Peer review

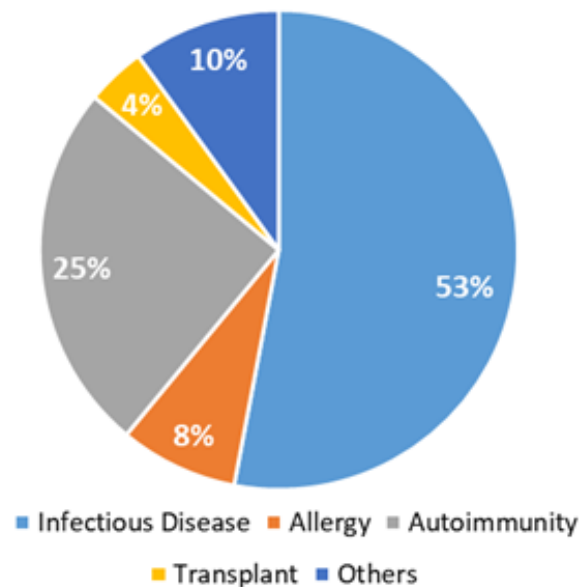
23K curated

Growth of IEDB Curated References



Note: 2022 data is based on Q1-3. Red line indicates historical curation completed.

Categorical Breakdown of Curated References



Consistency and Quality Control Measures

- Manually curated by a team of PhD-level scientists with specific expertise
- Formal curation guidelines and peer review
Curation Manual: http://curationwiki.iedb.org/wiki/index.php/Main_Page
- External immunological experts
- Built in validation in the curation application

Data Submissions

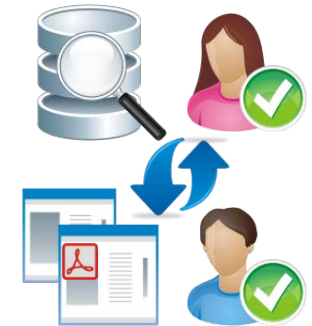
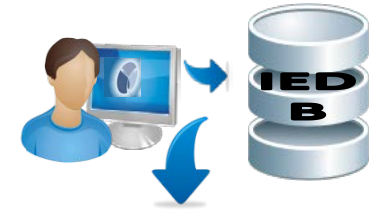
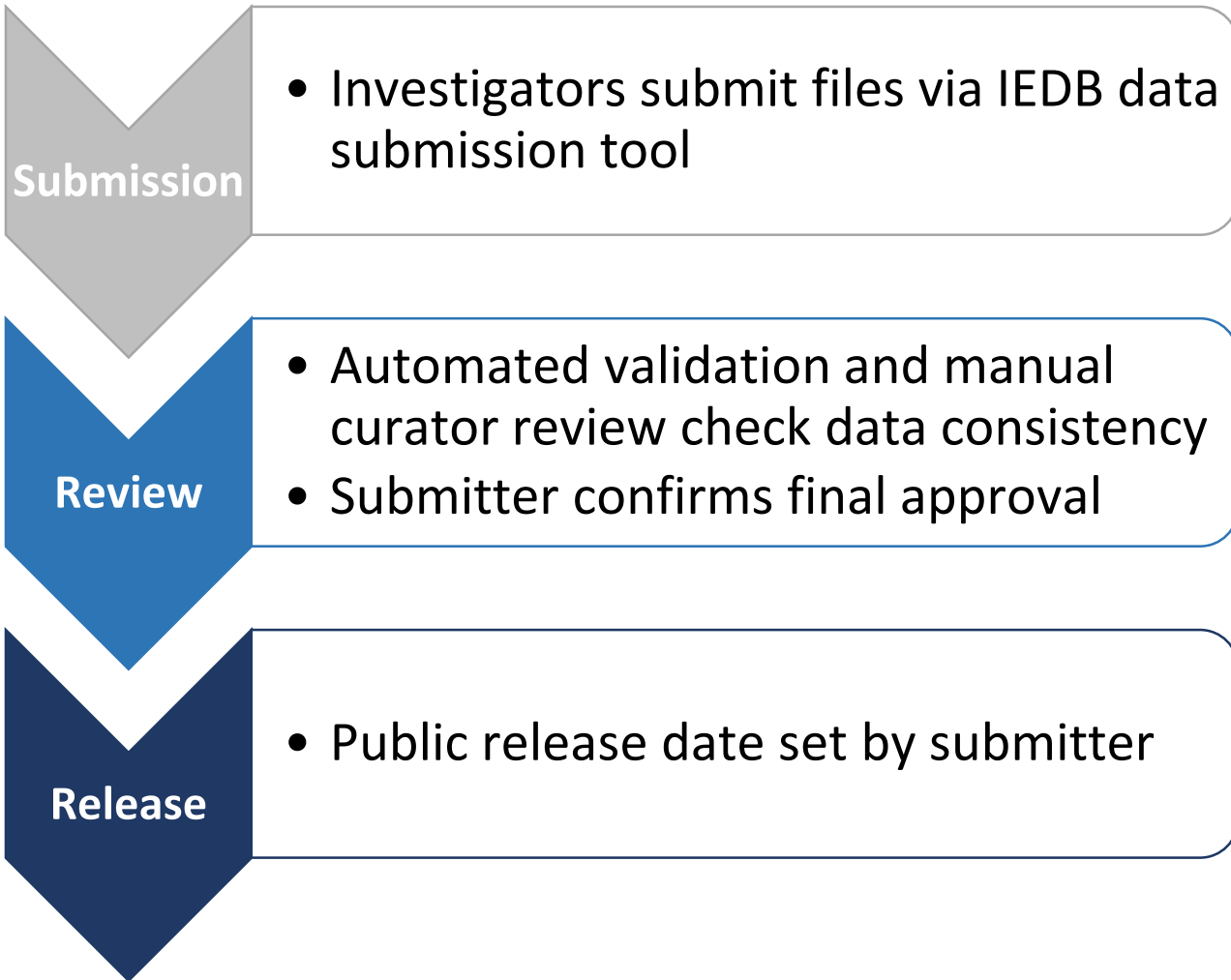
- Primarily sourced through NIAID Epitope Discovery contracts
- Data deposition is open to the general research community on a case-by-case basis

As of October, 2022:

- Data from **340 submissions** is publicly available & **80 submissions** are in process or on-hold
- Submitted data comprises **~20% of epitopes** available in the IEDB

Inquire by contacting: nblazeska@lji.org or
submissionsupport@iedb.org!

Direct Submission Process



IEDB.org: Homepage & Cumulative Data



Help

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Home

Specialized Searches

Analysis Resource

Welcome

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[Learn More](#)

Upcoming Events & News

AAI Exhibitor Booth May 6-10
 FOCIS Exhibitor Booth June 21-24
[Virtual User Workshop](#) Oct 26-28
 * register [here](#)

[IEDB SARS-CoV-2 Epitope Analysis Videos](#)

Summary Metrics

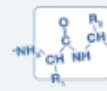
Peptidic Epitopes	1,537,093
Non-Peptidic Epitopes	3,143
T Cell Assays	443,136
B Cell Assays	1,331,360
MHC Ligand Assays	4,628,585
Epitope Source Organisms	4,226
Restricting MHC Alleles	969
References	23,270

START YOUR SEARCH HERE ?

Epitope ?

- Any
 Linear peptide
 Discontinuous
 Non-peptidic

Exact **M** Ex: SIINFEKL



Assay ?

- T Cell
 B Cell
 MHC Ligand

Ex: neutralization **Find**
 Outcome: Positive Negative



Epitope Source ?

Organism

Ex: influenza, peanut **Find**

Antigen

Ex: core, capsid, myosin **Find**



MHC Restriction ?

- Any
 Class I
 Class II
 Non-classical

Ex: HLA-A*02:01 **Find**



Host ?

- Any
 Human
 Mouse
 Non-human primate

Ex: dog, camel **Find**



Disease ?

- Any
 Infectious
 Allergic
 Autoimmune

Ex: asthma **Find**



Reset

Search

Epitope Analysis Resource

T Cell Epitope Prediction ?

Scan an antigen sequence for amino acid patterns indicative of:
 MHC I Binding
 MHC II Binding
 MHC I Processing (Proteasome, TAP)
 MHC I Immunogenicity

B Cell Epitope Prediction ?

Predict linear B cell epitopes using:
 Antigen Sequence Properties
 Predict discontinuous B cell epitopes using antigen structure via:
 Discotope
 ElliPro

Epitope Analysis Tools ?

Analyze epitope sets of:
 Population Coverage
 Conservation Across Antigens
 Clusters with Similar Sequences

IEDB.org: Homepage & Search Interface



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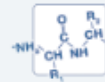
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Epitope Source Organisms	4,226
Restricting MHC Alleles	969
References	23,270

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Epitope ?

- Any
 Linear peptide
 Discontinuous
 Non-peptidic

Exact M Ex: SIINFEKL



Assay ?

- T Cell
 B Cell
 MHC Ligand

Ex: neutralization
 Outcome: Positive Negative



Epitope Source ?

Organism

Ex: influenza, peanut

Antigen

Ex: core, capsid, myosin



MHC Restriction ?

- Any
 Class I
 Class II
 Non-classical

Ex: HLA-A*02:01



Host ?

- Any
 Human
 Mouse
 Non-human primate

Ex: dog, camel



Disease ?

- Any
 Infectious
 Allergic
 Autoimmune

Ex: asthma



Reset

Search

Epitope Analysis Resource

T Cell Epitope Prediction ?

Scan an antigen sequence for amino acid patterns indicative of:
 MHC I Binding
 MHC II Binding
 MHC I Processing (Proteasome, TAP)
 MHC I Immunogenicity

B Cell Epitope Prediction ?

Predict linear B cell epitopes using:
 Antigen Sequence Properties
 Predict discontinuous B cell epitopes using antigen structure via:
 Discotope
 ElliPro

Epitope Analysis Tools ?

Analyze epitope sets of:
 Population Coverage
 Conservation Across Antigens
 Clusters with Similar Sequences

Example Query: HBV T Cell Epitopes in Humans

START YOUR SEARCH HERE ?

Epitope ?

Any
 Linear peptide
Exact M
 Discontinuous
 Non-peptidic

Assay ?

T Cell
 B Cell
 MHC Ligand
Ex: neutralization
Outcome: Positive Negative

Epitope Source ?

Organism

Antigen
Ex: core, capsid, myos

MHC Restriction ?

Any
 Class I
 Class II
 Non-classical
Ex: HLA-A*02:01

Host ?

Any
 Human
 Mouse
 Non-human primate
Ex: dog, camel

Disease ?

Any
 Infectious
 Allergic
 Autoimmune
Ex: asthma

Results Summarized in Tables

IMMUNE EPITOPE DATABASE AND ANALYSIS RESOURCE

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Pending Filters: **Current Filters:** Organism: Hepatitis B virus (hepatitis B virus (HBV)) (ID:10407_HBV) Include Positive Assays No B cell assays No MHC assays Host: Homo sapiens (human)

Reset Search

Filter Options T Cell

Epitopes (471) | Antigens (5) | Assays (1508) | Receptors (3235) | References (150)

Go To Records Starting At 1200 GO Export Results ↗

471 Records Found Page 1 of 19 GO 25 Per Page

Details	Epitope	Antigen	Organism	# References	# Assays
	16833 SDFFPSV	External core antigen	Hepatitis B virus (hepatitis B virus (HBV))	62	163
	72794 WLSLLVPFV	Large envelope protein	Hepatitis B virus (hepatitis B virus (HBV))	28	58
	16755 FLLRLTI	Large envelope protein	Hepatitis B virus (hepatitis B virus (HBV))	24	77
	16751 FLLSLGIHL	Protein P	Hepatitis B virus (hepatitis B virus (HBV))	15	24
	21145 GLSRYVARL	Protein P	Hepatitis B virus (hepatitis B virus (HBV))	12	30
	21139 GLSPTWLSV	Large envelope protein	Hepatitis B virus (hepatitis B virus (HBV))	10	17
	15061 EYLVSGVW	External core antigen	Hepatitis B virus (hepatitis B virus (HBV))	8	15
	34616 KYTSFPWLL	Protein P	Hepatitis B virus (hepatitis B virus (HBV))	8	13
	59585 SLYADSPSV	Protein P	Hepatitis B virus (hepatitis B virus (HBV))	8	15
	16832 FLPSDFFPSI	External core antigen	Hepatitis B virus (hepatitis B virus (HBV))	7	14
	37187 LLDYQGMLPV	Large envelope protein	Hepatitis B virus (hepatitis B virus (HBV))	7	9
	61745 STLPEITVRRR	Capsid protein	Hepatitis B virus (hepatitis B virus (HBV))	6	11
	69524 VLHKRTLGL	Protein X	Hepatitis B virus (hepatitis B virus (HBV))	6	6
	38701 LPSDFFPSV	External core antigen	Hepatitis B virus (hepatitis B virus (HBV))	5	14
	58740 SIVSPFIPLL	Large envelope protein	Hepatitis B virus (hepatitis B virus (HBV))	5	31
	75040 YMDDVWLGA	Protein P	Hepatitis B virus (hepatitis B virus (HBV))	5	11
	5191 ATVELLSFLPSDFFPSV	External core antigen	Hepatitis B virus (hepatitis B virus (HBV))	4	7
	6556 CLFKDWEEL	Protein X	Hepatitis B virus (hepatitis B virus (HBV))	4	6
	15848 FLLRLTI	Large envelope protein	Hepatitis B virus (hepatitis B virus (HBV))	4	9
	15849 FLLRLTIPOSLED	Large envelope protein	Hepatitis B virus (hepatitis B virus (HBV))	4	11
	37120 LLLCLFLV	Large envelope protein	Hepatitis B virus (hepatitis B virus (HBV))	4	5
	62477 SWLSLLVPF	Large envelope protein	Hepatitis B virus (hepatitis B virus (HBV))	4	6
	178829 FLGPLLVQA	Large envelope protein	Hepatitis B virus (hepatitis B virus (HBV))	4	13
	2002 AILSKTGDPV	Large envelope protein	Hepatitis B virus (hepatitis B virus (HBV))	3	4
	5911 AYRPPNAPILSTLPE	External core antigen	Hepatitis B virus (hepatitis B virus (HBV))	3	3

471 Records Found Page 1 of 19 GO 25 Per Page

Go To Records Starting At 1200 GO Export Results ↗

Filter Options: Any Linear peptide Discontinuous Non-peptidic 3D structure available Amino acid modification

Epitope Source: Organism: Hepatitis B virus (hepatitis) (1) Antigen: Ex: core, capsid, myosin Include related structure: Select multiple options

TCR: Has TCR sequence Type: Any Type Paired chains only Chain: Any Type Sequence: Exact Matches

T Cell Assay

Detail Pages

Summarize Relevant Information

Details Pages:

- Epitope Summary
- Compiled Data
 - MHC Ligand Assay(s)
 - B Cell Assay(s)
 - T Cell Assay(s)
- External Resources

Also available for:

- Assays
- Receptors
- References

EPITOPE SUMMARY

FLPSDFPPSV is a linear peptidic epitope (epitope ID 16833) studied as part of External core antigen from Hepatitis B virus (hepatitis B virus (HBV)) and Capsid protein from Hepatitis B virus (hepatitis B virus (HBV)). This epitope has been studied for immune reactivity in 101 publication(s), tested in 215 T cell assays, 8 B cell assays, 88 MHC ligand assays and has 3D structure(s) 3OXR, 3OXS, 1HHH and 3OX8.

COMPILED DATA

MHC Ligand Assay(s) 88

MHC molecule	Positive / All
HLA-A*02:01	35/35
HLA-A*02:03	8/8
HLA-A*02:06	8/8
HLA-A*02:02	6/6
HLA-A*02:07	4/4
HLA-A*68:02	4/4
HLA-A*03:01	0/3
HLA-A*11:01	0/3
HLA-A*02:05	2/2
HLA-A*01:01	0/2
HLA-B*07:02	0/2
HLA-B*15:02	0/2
HLA-A*02:04	1/1
HLA-A*02:11	1/1
HLA-A2	1/1
HLA-B44	1/1
H2-Kd	0/1
HLA-A*24:02	0/1
HLA-A*31:01	0/1
HLA-A*68:01	0/1
Mamu-A1*001:01	0/1




B Cell Assay(s) 8

Assay Type	Positive / All
qualitative binding	7/7
dissociation constant KD	1/1

T Cell Assay(s) 215

Assay Type	Positive / All
cytotoxicity	63/74
IFNg release	65/66
qualitative binding	45/50
TNFa release	7/8
IL-2 release	4/4
proliferation	4/4
IL-4 release	2/2
TNF release	2/2
activation	1/1

EXTERNAL RESOURCES

Resource	Link
 IEDB-AR: MHC-I Processing	Predict MHC class I processing
 IEDB-AR: MHC-I	Predict MHC class I binding affinity
 IEDB-AR: B cell scales	Predict B cell epitopes

Antigens: Identifying Protein Source of Epitopes

Current Filters: ✗ Organism: Hepatitis B virus (hepatitis B virus (HBV)) (ID:10407, HBV) ✗ Include Positive Assays ✗ No B cell assays ✗ No MHC assays ✗ Host: Homo sapiens (human)

Epitopes (471) Antigens (5) Assays (1508) Receptors (3235) References (150)

Go To Records Starting At Export Results

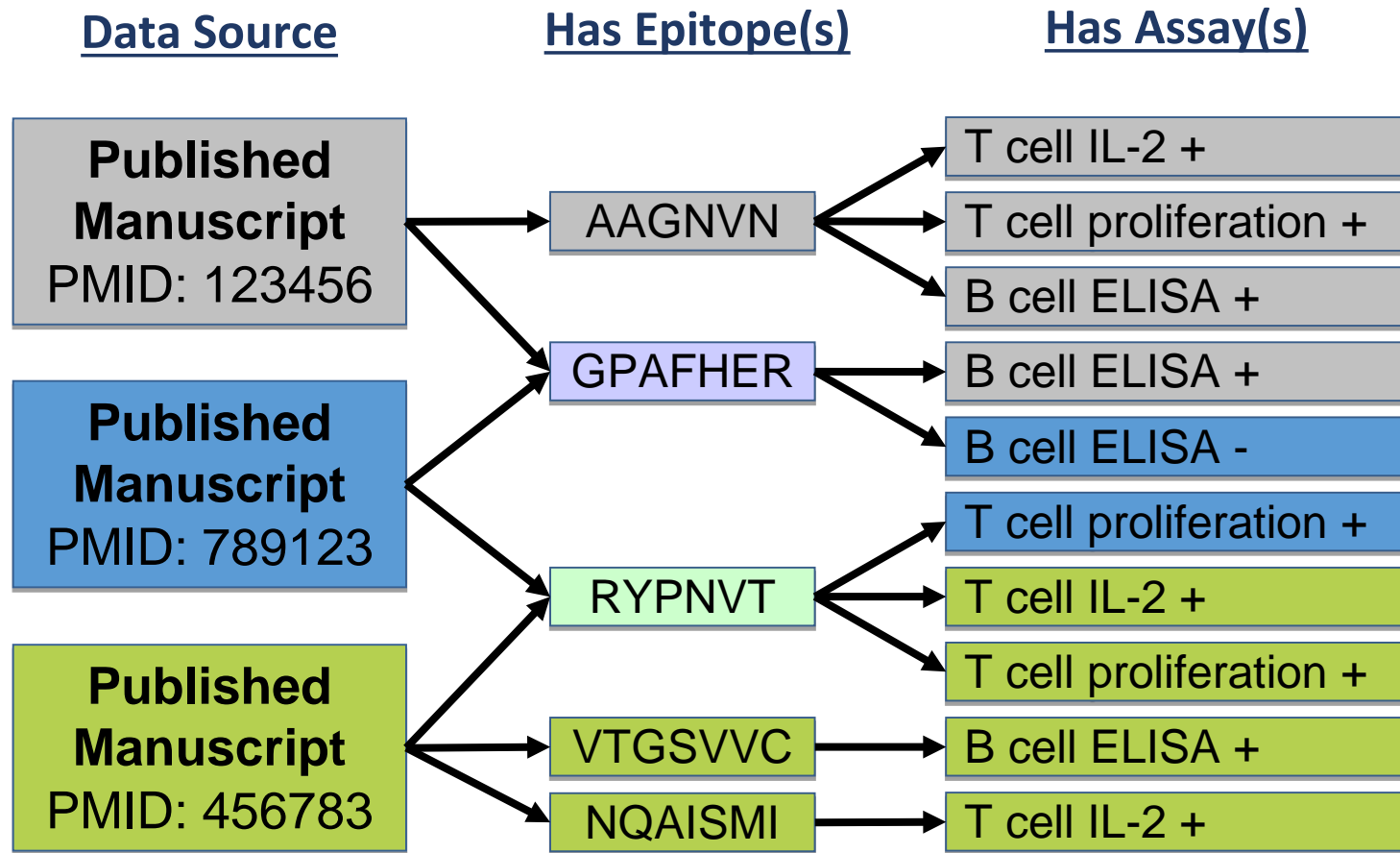
5 Records Found Page of 1 25 Per Page

Antigen	Organism	# Epitopes	# Assays	# References
External core antigen	Hepatitis B virus (hepatitis B virus (HBV))	121	410	90
Large envelope protein	Hepatitis B virus (hepatitis B virus (HBV))	181	680	85
Protein P	Hepatitis B virus (hepatitis B virus (HBV))	103	262	40
Capsid protein	Hepatitis B virus (hepatitis B virus (HBV))	41	99	35
Protein X	Hepatitis B virus (hepatitis B virus (HBV))	33	57	12

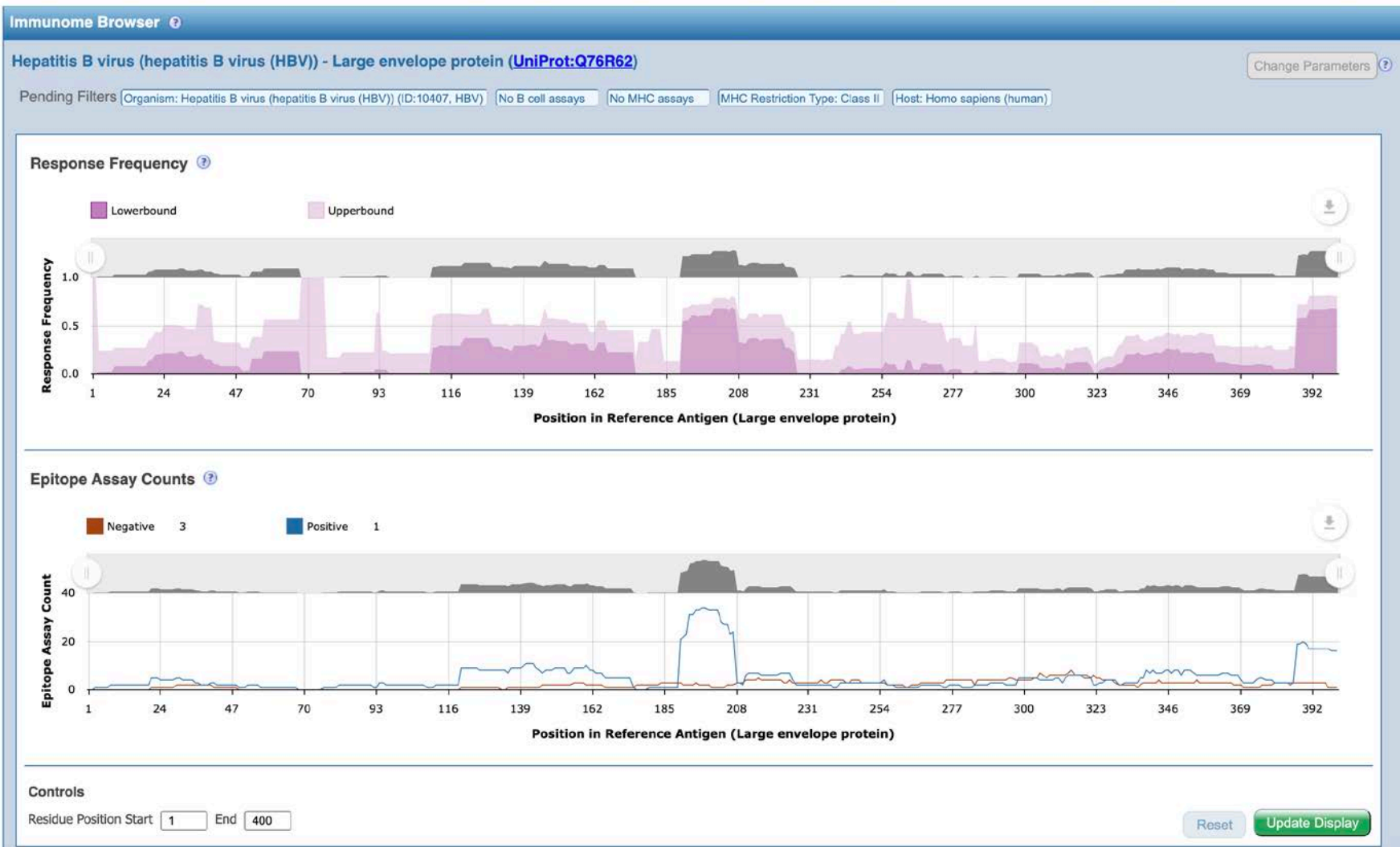
5 Records Found Page of 1 25 Per Page

Go To Records Starting At Export Results

Data Aggregation



ImmunomeBrowser: Visualization on Reference Proteins



Also available as a standalone tool on AR!

Assays: Experiments in which epitopes were tested

Current Filters: Epitope Structure: Linear Sequence Linear Sequence: FLPSDFFFPSV Organism: Hepatitis B virus (hepatitis B virus (HBV)) (ID:10407, HBV) Include Positive Assays No B cell assays No MHC assays

Host: Homo sapiens (human)

Epitopes (1)			Antigens (2)		Assays (163)		Receptors (1)	References (62)	
T Cell Assays (163)			B Cell Assays (0)		MHC Ligand Assays (0)				
Go To Records Starting At <input type="text" value="A,b"/> <input type="button" value="GO"/>									
163 Records Found Page <input type="text" value="1"/> of 7 <input type="button" value="Previous"/> <input type="button" value="Next"/> Export Results <input type="button" value=""/>									
ID	Reference	Epitope	Host	Immunization	Assay Antigen	Antigen Epitope Relation	MHC Restriction	Assay Description	
1356209	A Bertoletti; Hepatology 1997	FLPSDFFFPSV core protein (18-27) Hepatitis B virus (hepatitis B virus (HBV))	Homo sapiens (human)	Infectious disease via exposure to Hepatitis B virus (hepatitis B virus (HBV)) (Source Organism) followed by restimulation in vitro	FLPSDFFFPSV core protein (18-27) Hepatitis B virus (hepatitis B virus (HBV))	Epitope	HLA-DP	3H-thymidine proliferation Positive	
1031085	A Vitiello; J Clin Invest 1995	FLPSDFFFPSV core protein (18-27) Hepatitis B virus (hepatitis B virus (HBV))	Homo sapiens (human)	Administration in vivo with FLPSDFFFPSV (Epitope)	QYKANSKFIGITE Tetanus toxin precursor (830-843) Clostridium tetani	Other	HLA-A*02:01	3H-thymidine proliferation Positive	
1507988	A Bertoletti; J Exp Med 1994	FLPSDFFFPSV core protein (18-27) Hepatitis B virus (hepatitis B virus (HBV))	Homo sapiens (human)	Infectious disease via exposure to Hepatitis B virus (hepatitis B virus (HBV)) (Source Organism) followed by restimulation in vitro	FLPNDFFFPSA External core antigen Hepatitis B virus (hepatitis B virus (HBV))	Other Structure from Source Organism	HLA-A*02:01	51 chromium cytotoxicity Positive-Low	
1507999	A Bertoletti; J Exp Med 1994	FLPSDFFFPSV core protein (18-27) Hepatitis B virus (hepatitis B virus (HBV))	Homo sapiens (human)	Infectious disease via exposure to Hepatitis B virus (hepatitis B virus (HBV)) (Source Organism) followed by restimulation in vitro	FLPVDFFFPSI	Other	HLA-A*02:01	51 chromium cytotoxicity Positive-Low	
1507978	A Bertoletti; J Exp Med 1994	FLPSDFFFPSV core protein (18-27) Hepatitis B virus (hepatitis B virus (HBV))	Homo sapiens (human)	Infectious disease via exposure to Hepatitis B virus (hepatitis B virus (HBV)) (Source Organism) followed by restimulation in vitro	FLPNDFFFPSA External core antigen Hepatitis B virus (hepatitis B virus (HBV))	Other Structure from Source Organism	HLA-A*02:01	51 chromium cytotoxicity Positive-Low	
1276130	P A Wentworth; Mol Immunol 1995	FLPSDFFFPSV core protein (18-27) Hepatitis B virus (hepatitis B virus (HBV))	Homo sapiens (human)	Primary induction in vitro with FLPSDFFFPSV (Epitope)	FLPSDFFFPSV core protein (18-27) Hepatitis B virus (hepatitis B virus (HBV))	Epitope	HLA-A*02:01	51 chromium cytotoxicity Positive	
1276142	B Reherrmann; J Virol 1996	FLPSDFFFPSV core protein (18-27) Hepatitis B virus (hepatitis B virus (HBV))	Homo sapiens (human)	Infectious disease via exposure to Hepatitis B virus (hepatitis B virus (HBV)) (Source Organism) followed by restimulation in vitro	FLPSDFFFPSV core protein (18-27) Hepatitis B virus (hepatitis B virus (HBV))	Epitope	HLA-A*02:01	51 chromium cytotoxicity Positive	
1326508	A Cerny; Eur J Immunol 1995	FLPSDFFFPSV core protein (18-27) Hepatitis B virus (hepatitis B virus (HBV))	Homo sapiens (human)	Primary induction in vitro with FLPSDFFFPSV (Epitope)	FLPSDFFFPSV core protein (18-27) Hepatitis B virus (hepatitis B virus (HBV))	Epitope	HLA-A*02:01	51 chromium cytotoxicity Positive	

Epitope-specific B Cell and T Cell Receptors

Current Filters: ✗ Organism: Hepatitis B virus (hepatitis B virus (HBV)) (ID:10407, HBV) ✗ Include Positive Assays ✗ No B cell assays ✗ No MHC assays ✗ Host: Homo sapiens (human)

Epitopes (471) Antigens (5) Assays (1508) Receptors (3235) References (150)

T Cell Receptors (3235) B Cell Receptors (0)

Go To Records Starting At Export Results

3235 Records Found Page of 130 Per Page

Group ID	Species	Type	Chain 1 CDR3	Chain 2 CDR3
27823	Homo sapiens (human)	αβ	CAVMADGQKLLF	CASSQTIGTGFNSNEQFF
28578	Homo sapiens (human)	αβ	CAVNGANDYKLSF	not available
28776	Homo sapiens (human)	αβ	not available	CASSLGQGGVGEKLEFF
28777	Homo sapiens (human)	αβ	not available	CASSQQGVWGTGELFF
29227	Homo sapiens (human)	αβ	QHAGEAPTFLSYN	CASSRRRDLGNEQFF
29228	Homo sapiens (human)	αβ	CALDSSASKIIF	CASSYLTGEGDYGTYF
30648	Homo sapiens (human)	αβ	not available	CASSQGLAGKETQYF
30649	Homo sapiens (human)	αβ	not available	CASSQGSQQGYNEQFF
30650	Homo sapiens (human)	αβ	not available	CASSQTEGGIYGTYF
30651	Homo sapiens (human)	αβ	not available	CASSQVAVYSYEQYF
30652	Homo sapiens (human)	αβ	not available	CASSQVPDSYYGTYF
30653	Homo sapiens (human)	αβ	not available	CASSQVTGSNYGYTF
30654	Homo sapiens (human)	αβ	not available	CASSQVGSYHYGYTF
30655	Homo sapiens (human)	αβ	not available	CASSRGANYGYTF
30656	Homo sapiens (human)	αβ	not available	CASSRGLPPVEQFF
30657	Homo sapiens (human)	αβ	not available	CASSRGTGGYSNQPQHF
30658	Homo sapiens (human)	αβ	not available	CASSRWRGEEKLFF
30659	Homo sapiens (human)	αβ	not available	CASSFSFLGKTYGYTF
30660	Homo sapiens (human)	αβ	not available	CASSSGAGNTEAFF
30661	Homo sapiens (human)	αβ	not available	CASSSGLKMEENIQYF
30662	Homo sapiens (human)	αβ	not available	CASSHGGAKNIQYF
30663	Homo sapiens (human)	αβ	not available	CASSRRDRDTGELFF
30664	Homo sapiens (human)	αβ	not available	CASSRIPRTGLIYEQYF
30665	Homo sapiens (human)	αβ	not available	CASSRNTGANEKLEFF
30666	Homo sapiens (human)	αβ	not available	CASSRTRHNTGELFF

3235 Records Found Page of 130 Per Page

Go To Records Starting At Export Results

References: Source of Information

Pending Filters

Reset Search

Filter Options

B Cell

Epitope

Any

Linear peptide

Length

Sequence

Discontinuous

Non-peptidic

3D structure available

Amino acid modification

Epitope Source

Organism

Hepatitis B virus (Human h¹)

Antigen

Ex: core, capsid, myosin

Include related structure

Select multiple options

Antibody/BCR

Has BCR sequence

Type

Any Type

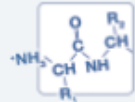
Paired chains only

Current Filters: Organism: Hepatitis B virus (Human hepatitis B virus) (ID:10407, HBV) Include Positive Assays No T cell assays No MHC assays Host: Homo sapiens (human)


Epitopes (158)		Antigens (4)		Assays (278)		Receptors (3)		References (55)	
Go To Records Starting At 1982 <input type="button" value="GO"/>									
55 Records Found Page 1 of 3 <input type="button" value="25"/> Per Page									
Ref ID	PMID	Author	Title	Journal	Date				
1039372	34406663	Sreya Tarafdar; Maria Luisa Virata; Hailing Yan; Lilin Zhong; Lu Deng; Yanqun Xu; Yong He; Evi Struble; Pei Zhang	Multiple epitopes of hepatitis B virus surface antigen targeted by human plasma-derived immunoglobulins coincide with clinically observed escape mutations.	J Med Virol	2021				
1039298	34358170	Jisu Hong; Youngjin Choi; Yoonjoo Choi; Jiwoo Lee; Hyo Jeong Hong	Epitope-Paratope Interaction of a Neutralizing Human Anti-Hepatitis B Virus PreS1 Antibody That Recognizes the Receptor-Binding Motif.	Vaccines (Basel)	2021				
1036989	32504577	Qiao Wang; Eleftherios Michailidis; Yingpu Yu; Zijun Wang; Ariene M Hurley; Deena A Oren; Christian T Mayer; Anna Gazumyan; Zhenmi Liu; Yunjiao Zhou; Till Schoofs; Kai-Hui Yao; Jan P Niekte; Jianbo Wu; Qingling Jiang; Chenhui Zou; Mohammad Kabbani; Corrine Quirk; Thiago Oliveira; Kalsang Chhosphel; Qianqian Zhang; William M Schneider; Cyprien Jahan; Tianlei Ying; Jill Horowitz; Marina Caskey; Mila Jankovic; Davide F Robbiani; Yumei Wen; Ype P de Jong; Charles M Rice; Michel C Nussenzweig	A Combination of Human Broadly Neutralizing Antibodies against Hepatitis B Virus HBsAg with Distinct Epitopes Suppresses Escape Mutations.	Cell Host Microbe	2020				
1037271	32855110	Inna Tulaeva; Carolin Cornelius; Petra Ziegelmayer; René Ziegelmayer; René Schmutz; Patrick Lemell; Milena Weber; Margarete Focke-Tejkt; Alexander Karaulov; Rainer Henning; Rudolf Valenta	Quantification, epitope mapping and genotype cross-reactivity of hepatitis B preS-specific antibodies in subjects vaccinated with different dosage regimens of BM32.	EBioMedicine	2020				
1035521	30771531	M-W Lai; K-H Liang; C-T Yeh	Diverse immune responses to HBV surface epitope variants after vaccine booster in adolescents immunized in infancy.	Clin Microbiol Infect	2019				
1033695	29847243	Chang-Yu Chang; Fu-Ling Chang; Chen-Wei Chiang; Yan-Ni Lo; Tsai-Yu Lin; Wang-Chuan Chen; Keng-Chang Tsai; Yu-Ching Lee	Interaction of S17 Antibody with the Functional Binding Region of the Hepatitis B Virus Pre-S2 Epitope.	Viral Immunol	2018				
1032281	28949917	Dan Li; Wenhui He; Ximing Liu; Sanduo Zheng; Yonghe Qi; Huiyu Li; Fengfeng Mao; Juan Liu; Yinyan Sun; Lijing Pan; Kaixin Du; Keqiong Ye; Wenhui Li; Jianhua Sui	A potent human neutralizing antibody Fc-dependently reduces established HBV infections.	Elife	2017				
1025661	23452727	Zhongji Meng; Ruihua Song; Yue Chen; Yang Zhu; Yanhui Tian; Ding Li; Daxiang Cui	Rapid screening and identification of dominant B cell epitopes of HBV surface antigen by quantum dot-based fluorescence polarization assay.	Nanoscale Res Lett	2013				
1025788	23597076	Jessica Z Bereszczak; Rebecca J Rose; Esther van Duijn; Norman R Watts; Paul T Wingfield; Alasdair C Steven; Albert J R Heck	Epitope-distal effects accompany the binding of two distinct antibodies to hepatitis B virus capsids.	J Am Chem Soc	2013				
1019757	20412816	Kazuto Tajiri; Tatsuhiko Ozawa; Aishun Jin; Yoshiharu Tokimitsu; Masami Minemura; Hiroyuki Kishii; Toshiro Suwama; Atsushi Murauchi	Analysis of the epitope and neutralizing capacity of human monoclonal antibodies induced by hepatitis B vaccine.	Antiviral Res	2010				

Example Query II: Influenza Virus Epitopes


START YOUR SEARCH HERE ?

Epitope ? 


Any
 Linear peptide
Exact N
 Discontinuous
 Non-peptidic

Assay ? 


T Cell
 B Cell
 MHC Ligand
Ex: neutralization
Outcome: Positive Negative

Epitope Source ? 


Organism
 ¹
Antigen
Ex: core, capsid, myosin

MHC Restriction ? 

Any
 Class I
 Class II
 Non-classical
Ex: HLA-A*02:01

Host ? 

Any
 Human
 Mouse
 Non-human primate
Ex: dog, camel

Disease ? 

Any
 Infectious
 Allergic
 Autoimmune
Ex: asthma

Results: All influenza virus epitopes

Both positive and negative assay outcomes

Pending Filters

Reset Search

Filter Options ?

Default

Epitope ?

Any

Linear peptide

Length

Sequence

Discontinuous

Non-peptidic

3D structure available

Amino acid modification

Epitope Source ?

Organism

Influenza virus (ID:100020) 1

Antigen

Ex: core, capsid, myosin

Include related structure

Select multiple options

Receptor ?

Current Filters: Organism: Influenza virus (ID:10002045) Include Positive Assays Include Negative Assays

Epitopes (9202)		Antigens (30)		Assays (35391)		Receptors (15391)		References (1604)	
9202 Records Found									
Go To Records Starting At 1200 <input type="button" value="Go"/>									
Page 1 of 369									
Details	Epitope	Antigen	Organism	# References	# Assays				
20354	GILGFVFTL	Matrix protein 1	Influenza A virus	253	675				
4602	ASNENMETM	Nucleoprotein	Influenza A virus	159	467				
48237	PKYVKQNTLKLAT	Hemagglutinin	Influenza A virus	131	482				
61151	SSLENFRAYV	Polymerase basic protein 2	Influenza A virus	92	287				
67436	TYQRTRALV	Nucleoprotein	Influenza A virus	87	207				
60867	SRYWAIRTR	Nucleoprotein	Influenza A virus	57	146				
7136	CTELKLSDY	Nucleoprotein	Influenza A virus	39	88				
4578	ASNENMDAM	Nucleoprotein	Influenza A virus	33	98				
57751	SFERFEIFPKE	Hemagglutinin	Influenza A virus	33	127				
13263	ELRSRYWAI	Nucleoprotein	Influenza A virus	32	80				
59318	SLLTEVETPIRNEWGRCNDSSD	Matrix protein 2	Influenza A virus	32	148				
61497	SSYRRPVGI	RNA-directed RNA polymerase catalytic subunit	Influenza A virus	31	78				
29690	IYSTVASSL	Hemagglutinin	Influenza A virus	30	106				
27283	ILRGSVAHK	Nucleoprotein	Influenza A virus	29	57				
70898	VSDGGPNLY	RNA-directed RNA polymerase catalytic subunit	Influenza A virus	29	55				
56055	RTFSFQLI	Nuclear export protein	Influenza A virus	27	63				
17119	FMYSDFHFI	Polymerase acidic protein	Influenza A virus	25	67				
39494	LSLRNPILV	Protein PB1-F2	Influenza A virus	24	52				
57322	SDYEGRLI	Nucleoprotein	Influenza A virus	19	43				
2014	AIMDKNIIL	Nuclear export protein	Influenza A virus	18	79				

Results: Positive influenza virus epitopes

Positive assay outcomes

Pending Filters

Reset Search

Filter Options (2)

Default

Epitope (2)

Any

Linear peptide

Length

Sequence

Discontinuous

Non-peptidic

3D structure available

Amino acid modification

Epitope Source (2)

Organism

Influenza virus (ID:10002045)

Antigen

Ex: core, capsid, myosin

Include related structure

Select multiple options

Receptor (2)

Current Filters: Organism: Influenza virus (ID:10002045) Include Positive Assays

Epitopes (5225) Antigens (30) Assays (20936) Receptors (15391) References (1564)

Go To Records Starting At 1200

5225 Records Found

Page 1 of 209

Export Results

Details	Epitope	Antigen	Organism	# References	# Assays
	20354 GILGFVFTL	Matrix protein 1	Influenza A virus	247	637
	4602 ASNENMETM	Nucleoprotein	Influenza A virus	154	429
	48237 PKYVKQNTLKLAT	Hemagglutinin	Influenza A virus	124	418
	61151 SLENFRAYV	Polymerase basic protein 2	Influenza A virus	92	270
	67436 TYQTRALV	Nucleoprotein	Influenza A virus	84	180
	60867 SRYWAIRTR	Nucleoprotein	Influenza A virus	46	101
	7136 CTEKLSDY	Nucleoprotein	Influenza A virus	35	62
	57751 SFERFEIFPKE	Hemagglutinin	Influenza A virus	33	115
	59318 SLLTEVETPIRNEWGRCNDSSD	Matrix protein 2	Influenza A virus	32	133
	4578 ASNENMDAM	Nucleoprotein	Influenza A virus	31	75
	61497 SSYRRPVGI	RNA-directed RNA polymerase catalytic subunit	Influenza A virus	29	69
	29690 IYSTVASSL	Hemagglutinin	Influenza A virus	28	95
	13263 ELRSRYWAI	Nucleoprotein	Influenza A virus	27	50
	27283 ILRGSVAHK	Nucleoprotein	Influenza A virus	25	49
	56055 RTFSFQLI	Nuclear export protein	Influenza A virus	25	52
	70898 VSDGGPNLY	RNA-directed RNA polymerase catalytic subunit	Influenza A virus	25	36
	17119 FMYSDFHFI	Polymerase acidic protein	Influenza A virus	21	58
	39494 LSLRNPILV	Protein PB1-F2	Influenza A virus	21	45
	2014 AIMDKNIL	Nuclear export protein	Influenza A virus	17	72
	57322 SDYEGRLI	Nucleoprotein	Influenza A virus	17	34

Results: Influenza virus epitopes that bind

Positive assay outcomes for MHC assays

Pending Filters

Reset Search

Filter Options ?

MHC

Epitope ?

Any

Linear peptide

Length

Sequence

Discontinuous

Non-peptidic

3D structure available

Amino acid modification

Epitope Source ?

Organism

Influenza virus (ID:100020) 1

Antigen

Ex: core, capsid, myosin

Include related structure

Select multiple options

MHC Assay ?

Current Filters: Organism: Influenza virus (ID:10002045) Include Positive Assays No T cell assays No B cell assays

Epitopes (2239)	Antigens (25)	Assays (5680)	Receptors (0)	References (422)	
Go To Records Starting At 1200 GO					
2239 Records Found					
Page 1 of 90					
Export Results					
Details	Epitope	Antigen	Organism	# References	# Assays
48237	PKYVKQNTLKLAT	Hemagglutinin	Influenza A virus	84	270
20354	GILGFVFTL	Matrix protein 1	Influenza A virus	79	104
4602	ASNENMETM	Nucleoprotein	Influenza A virus	44	53
60867	SRYWAIRTR	Nucleoprotein	Influenza A virus	20	34
67436	TYQRTRALV	Nucleoprotein	Influenza A virus	18	20
7136	CTELKLSDY	Nucleoprotein	Influenza A virus	13	18
16681	FLKDVMESE	RNA-directed RNA polymerase catalytic subunit	Influenza A virus	12	17
61151	SSLENFRAYV	Polymerase acidic protein	Influenza A virus	12	21
70898	VSDGGPNLY	RNA-directed RNA polymerase catalytic subunit	Influenza A virus	12	18
54593	RLIQNSLTI	Nucleoprotein	Influenza A virus	11	18
17119	FMYSDFHFI	Polymerase acidic protein	Influenza A virus	10	22
18274	FVRQCFNPM	Polymerase acidic protein	Influenza A virus	10	18
13263	ELRSRYWAI	Nucleoprotein	Influenza A virus	9	13
24819	HSNLNDATY	Nucleoprotein	Influenza A virus	9	14
42612	MSNEGSYFF	Nucleoprotein	Influenza A virus	9	15
45001	NMLSTVLGV	RNA-directed RNA polymerase catalytic subunit	Influenza A virus	9	21
65229	TMLYNKMEF	Polymerase basic protein 2	Influenza A virus	9	17
72836	WMACHSAAF	Nucleoprotein	Influenza A virus	9	18
4578	ASNENMDAM	Nucleoprotein	Influenza A virus	8	9
41360	MEFEFPQSL	Polymerase basic protein 2	Influenza A virus	8	16

Results: Influenza virus epitopes that are immunogenic

Positive assay outcomes for T cell assays

IMMUNE EPITOPE DATABASE AND ANALYSIS RESOURCE

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Pending Filters

Reset Search

Filter Options ?

T Cell

Epitope Source ?

Organism: Influenza virus (ID:10002045)

Antigen: Ex: core, capsid, myosin

Include related structure: Select multiple options

TCR ?

Current Filters: **Organism: Influenza virus (ID:10002045)** **Include Positive Assays** **No B cell assays** **No MHC assays**

Epitopes (2262) Antigens (17) Assays (7593) Receptors (15280) References (877)

Go To Records Starting At 1200

2262 Records Found

Page 1 of 91

Details	Epitope	Antigen	Organism	# References	# Assays
20354	GILGFVFTL	Matrix protein 1	Influenza A virus	194	528
4602	ASNENMETM	Nucleoprotein	Influenza A virus	130	376
61151	SSLENFRAYV	Polymerase basic protein 2	Influenza A virus	88	249
67436	TYQRTRALV	Nucleoprotein	Influenza A virus	75	158
48237	PKYVKQNTLKLAT	Hemagglutinin	Influenza A virus	57	148
57751	SFERFEIFPKE	Hemagglutinin	Influenza A virus	33	107
60867	SRYWAIRTR	Nucleoprotein	Influenza A virus	32	67
4578	ASNENMDAM	Nucleoprotein	Influenza A virus	28	66
7136	CTELKLSDY	Nucleoprotein	Influenza A virus	27	44
29690	IYSTVASSL	Hemagglutinin	Influenza A virus	26	86
61497	SSYRRPVGI	RNA-directed RNA polymerase catalytic subunit	Influenza A virus	26	60
27283	ILRGSVAHK	Nucleoprotein	Influenza A virus	24	46
56055	RTFSFQLI	Nuclear export protein	Influenza A virus	23	41
13263	ELRSRYWAI	Nucleoprotein	Influenza A virus	20	37
39494	LSLRNPILV	Protein PB1-F2	Influenza A virus	20	37
70898	VSDGGPNLY	RNA-directed RNA polymerase catalytic subunit	Influenza A virus	16	18
2014	AIMDKNIL	Non-structural protein 1	Influenza A virus	15	60
17119	FMYSDFHFI	Polymerase acidic protein	Influenza A virus	15	36
57322	SDYEGRLI	Nucleoprotein	Influenza A virus	15	28
52824	QVYSLRPNENPAHK	Nucleoprotein	Influenza A virus	11	27

Results: Influenza virus mouse epitopes that are immunogenic

Positive assay outcomes for T cell assays in a mouse host

IMMUNE EPITOPE DATABASE AND ANALYSIS RESOURCE

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Pending Filters

Reset Search

Filter Options ?

T Cell

Epitope ?

Any

Linear peptide

Length

Sequence

Discontinuous

Non-peptidic

3D structure available

Amino acid modification

Epitope Source ?

Organism

Influenza virus (ID:100020)

Antigen

Ex: core, capsid, myosin

Include related structure

Select multiple options

TCR ?

Current Filters: **Organism: Influenza virus (ID:10002045)** **Include Positive Assays** **No B cell assays** **No MHC assays** **Host: Mus (mice)**

Epitopes (958) Antigens (15) Assays (3865) Receptors (1909) References (518)

Go To Records Starting At 1200

Export Results

958 Records Found

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Details	Epitope	Antigen	Organism	# References	# Assays
4602	ASNENMETM	Nucleoprotein	Influenza A virus	130	376
61151	SSLENFRAYV	Polymerase acidic protein	Influenza A virus	88	249
67436	TYQRTRALV	Nucleoprotein	Influenza A virus	75	158
57751	SFERFEIFPKE	Hemagglutinin	Influenza A virus	32	105
4578	ASNENMDAM	Nucleoprotein	Influenza A virus	28	66
29690	IYSTVASSL	Hemagglutinin	Influenza A virus	26	86
61497	SSYRRPVGI	RNA-directed RNA polymerase catalytic subunit	Influenza A virus	26	60
20354	GILGFVFTL	Matrix protein 1	Influenza A virus	25	74
56055	RTFSFQLI	Nuclear export protein	Influenza A virus	23	41
39494	LSLRNPILV	Protein PB1-F2	Influenza A virus	20	37
57322	SDYEGRLI	Nucleoprotein	Influenza A virus	15	28
48237	PKYVKQNTLKLAT	Hemagglutinin	Influenza A virus	13	20
52824	QVYSLRPNENPAHK	Nucleoprotein	Influenza A virus	11	27
41602	MGLIYNRM	Matrix protein 1	Influenza A virus	10	19
59318	SLLTEVETPIRNEWGCRCDSSD	Matrix protein 2	Influenza A virus	10	23
129797	RNLLWLTGKNGLYPNLS	Hemagglutinin	Influenza A virus	10	15
17119	FMYSDFHI	Polymerase acidic protein	Influenza A virus	9	21
18406	FYIQMCTEL	Nucleoprotein	Influenza A virus	9	22
24408	HNTNGVTAACSHE	Hemagglutinin	Influenza A virus	9	16
67437	TYQRTRALVRTG	Nucleoprotein	Influenza A virus	9	16

Results: Influenza virus epitopes that offer protection from disease

Positive assay outcomes for T cell assays (decreased disease, adoptive transfer, challenge) in a mouse host

The screenshot displays the IEDB Assay Finder interface. The top section shows a table of search results with columns for Details, Epitope, Antigen, Organism, # References, and # Assays. The 'ASSAY FINDER' window is open, showing a 'Current Selection(s)' bar with filters for 'decreased disease', 'adoptive transfer', and 'challenge'. The 'Search By' section includes fields for Name (with an example 'IL-2, Release'), Method/Technique, Measurement Of, and Units, along with a 'Search' button. The 'Browse by Tree (Click to Select)' section shows a hierarchical tree of assay types, with 'decreased disease', 'disease exacerbation', 'adoptive transfer', 'in vivo proliferation', and 'challenge' highlighted in yellow. The left sidebar contains various filters for Epitope, Epitope Source, TCR, and T Cell Assay.

Details	Epitope	Antigen	Organism	# References	# Assays
20354	GILGFVFTL	Matrix protein 1	Influenza A virus	194	528
4602	ASNENMETM	Nucleoprotein	Influenza A virus	130	376
24454				38	249
				75	158
				37	148
				33	107
				32	67
				28	66
				27	44
				26	86
				26	60
				24	46
				23	41
				20	37
				20	37
				16	18
				15	60
				15	36
				15	28
				11	27
				10	25
				10	17
				10	24
				10	19
				10	23

Results: Influenza virus epitopes that offer protection from disease

Positive assay outcomes for T cell assays (decreased disease, adoptive transfer, challenge) in a mouse host

Pending Filters

Reset Search

Filter Options

T Cell

Epitope

Any

Linear peptide

Length

Sequence

Discontinuous

Non-peptidic

3D structure available

Amino acid modification

Epitope Source

Organism

Influenza virus (ID:1000204)

Antigen

Ex: core, capsid, myosin

Include related structure

Select multiple options

TCR

Has TCR sequence

Type

Any Type

Paired chains only

Chain

Any Type

Sequence

Exact Matches

T Cell Assay

Outcome: Positive

Current Filters: Organism: Influenza virus (ID:10002045) Include Positive Assays No B cell assays No MHC assays Host: Mus (mice) T Cell Assays: decreased disease, adoptive transfer, challenge

Epitopes (43) Antigens (9) Assays (97) Receptors (38) References (51)

Go To Records Starting At 1200

43 Records Found

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Details	Epitope	Antigen	Organism	# References	# Assays
	57751	SFERFEIFPKE	Hemagglutinin	8	12
	67436	TYQRTRALV	Nucleoprotein	8	11
	20354	GILGFVFTL	Matrix protein 1	7	12
	29690	IYSTVASSL	Hemagglutinin	7	8
	4602	ASNENMETM	Nucleoprotein	5	5
	61151	SSELENFRAYV	Polymerase acidic protein	4	4
	59318	SLLTEVETPIRNEWGCRNDSSD	Matrix protein 2	3	3
	17119	FMYSDFHFI	Polymerase acidic protein	2	2
	2014	AIMDKNIL	Non-structural protein 1	1	1
	2790	ALNNRFQIKGVELKS	Hemagglutinin	1	2
	4578	ASNENMDAM	Nucleoprotein	1	1
	5757	AYERMCNIL	Nucleoprotein	1	1
	16098	FHDSNVKNIL	Hemagglutinin	1	1
	18406	FYIQMCTEL	Nucleoprotein	1	1
	19421	GERQNATEI	Nucleoprotein	1	1
	23311	GYAQTDVCL	RNA-directed RNA polymerase catalytic subunit	1	1
	41602	MGLIYNRM	Matrix protein 1	1	1
	42596	MSLLTEVETPIRNEWGCRNDSSD	Matrix protein 2	1	1
	48650	PNGYIEGK	Polymerase basic protein 2	1	1
	54593	RLIQNSLTI	Nucleoprotein	1	1
	54594	RLIQNSLTIERMVLS	Nucleoprotein	1	1
	56055	RTFSFOLI	Nuclear export protein	1	1
	61497	SSYRRPVGI	RNA-directed RNA polymerase catalytic subunit	1	1
	62335	SVSSFERFEIFPK	Hemagglutinin	1	1
	67391	TYNALLVL	Hemagglutinin	1	1

43 Records Found

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Links

Welcome

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[Learn More](#)

Upcoming Events & News

AAI Exhibitor Booth May 6-10
FOCIS Exhibitor Booth June 21-24
[Virtual User Workshop](#) Oct 26-28
* register [here](#)

[IEDB SARS-CoV-2 Epitope Analysis Videos](#)

Summary Metrics

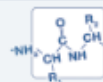
Peptidic Epitopes	1,537,093
Non-Peptidic Epitopes	3,143
T Cell Assays	443,136
B Cell Assays	1,331,360
MHC Ligand Assays	4,628,585
Epitope Source Organisms	4,226
Restricting MHC Alleles	969
References	23,270

START YOUR SEARCH HERE

Epitope

- Any
 Linear peptide
 Discontinuous
 Non-peptidic

Exact M



Assay

- T Cell
 B Cell
 MHC Ligand

Ex: neutralization

Outcome: Positive Negative



Epitope Source

Organism

Ex: influenza, peanut

Antigen

Ex: core, capsid, myosin



MHC Restriction

- Any
 Class I
 Class II
 Non-classical

Ex: HLA-A*02:01



Host

- Any
 Human
 Mouse
 Non-human primate

Ex: dog, camel



Disease

- Any
 Infectious
 Allergic
 Autoimmune

Ex: asthma



Reset

Search

Epitope Analysis

T Cell Epitope

Scan an antigen sequence for amino acid patterns indicative of:
MHC I Binding
MHC II Binding
MHC I Processing (Proteasome, TAP)
MHC I Immunogenicity

B Cell Epitope Prediction

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[Antigen Sequence Properties](#)
Predict discontinuous B cell epitopes using antigen structure via:
[Discotope](#)
[ElliPro](#)

Epitope Analysis Tools

Analyze epitope sets of:
[Population Coverage](#)
[Conservation Across Antigens](#)
[Clusters with Similar Sequences](#)

More Exports

http://www.iedb.org/database_export_v3

XML Database Export	
Complete Database Export	323MB
iedbAccessionList.zip	49kB
MhcAlleleNameList.zip	34kB
OrganismList.zip	35MB
AssayTypeList.zip	5kB
GeoLocList.zip	3kB

IEDB Schema	
Curation.xsd (Primary IEDB schema)	48kB
CurationSimpleTypes.xsd	303kB
iedbAccessionList.xsd	909B
MhcAlleleNameList.xsd	1kB
OrganismList.xsd	751B
AssayTypeList.xsd	771B
GeoLocList.xsd	642B

MySQL Database Export	
SQL Statement Export	379MB
MyISAM Binary Export	819MB

Physical Entity Relationship Diagram	
iedb_public_erd.pdf	31kB

CSV Metric Exports	
epitope_full_v3.zip	65MB
antigen_full_v3.zip	2MB
tcell_full_v3.zip	28MB
bcell_full_v3.zip	36MB
mhc_ligand_full (single_file.zip) (multi_file.zip)	168MB
reference_full_v3.zip	12MB
receptor_full_v3.zip	5MB
iedb_3d_full.zip	3MB

Stable ID Exports	
Linkout IDs Compact	21MB
Linkout IDs Full	40MB
ChEBI to Epitope ID Maps	158kB
PDB to Epitope ID Maps	51kB
Epitope ID to Linear Seq Maps	11MB

Help integrated throughout the website



Help

More IEDB

Home | Specialized Searches | Analysis Resource

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Epitope ? Filter epitopes by molecular structure. [Learn More](#)

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Exact Ex: SIINFEKL

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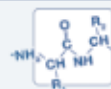
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Solution Center: help.iedb.org

Accessible through header and footer on every page or submit via email to help@iedb.org

The screenshot shows the IEDB Solutions Center Forum homepage. At the top, there is a search bar with a magnifying glass icon and the text "Search". Below the search bar is the main heading "IEDB Solutions Center Forum". Underneath, there are three main categories: "IEDB Publications" (described as "IEDB-related publications authored by members of the IEDB team"), "General", and "Future features" (described as "Possible new features or enhancements to existing ones derived from user help requests"). Below these categories is a section titled "Promoted articles" which lists several recent publications and workshops, including "Comprehensive Review of Human Plasmodium falciparum-Specific CD8+ T Cell Epitopes (2019)", "Citing the IEDB", "Getting Started", "IEDB Annual Compendium for 2018", "2019 User Workshop", "IEDB FAIRness", "IEDB Outreach Events for 2019", "IEDB Analysis Resource v2.21 release notes (26 Mar 2019)", "IEDB v3.10.0 release notes", "IEDB v3.10.0 release notes", "IEDB v3.6.0 Release Notes (16 December 2016)", "IEDB 3.3 Release Notes (5 February 2016)", "IEDB User Documentation Release 3", "User Workshop Webcasts", and "A New Format for the Details Pages".

The screenshot shows the "Submit a request" form in the IEDB Solutions Center. At the top right, there are links for "Submit a request" and "Sign in". The page title is "Submit a request" and the breadcrumb is "IEDB Solutions Center > Submit a request". There is a search bar with a magnifying glass icon and the text "Search". The form fields are: "Your email address*" (text input), "Subject*" (text input), and "Description*" (text area). Below the description field, there is a note: "Please enter the details of your request. A member of our support staff will respond as soon as possible." There is an "Attachments" section with a file upload button labeled "Add file or drop files here". At the bottom, there is a blue "Submit" button.