

BV-BRC Test Report

D13. Epitopes Data Tab

Item to test	Epitopes Data Tab
URL	https://www.bv-brc.org/view/Taxonomy/11320#view_tab=epitope&filter=false
Prerequisites	None
References	https://www.bv-brc.org/docs/quick_references/organisms_menu.html#browsing-bv-brc-by-taxon
Tester(s)	Rebecca Wattam, Richard Scheuermann, Ron Kenyon
Test date	6-Jan-2022 and 4-Feb-22 (original – passed), 9-May-2022 (follow-up-passed)
Test result	Passed

Overview

- Test the Epitopes Tab with example bacterial and viral data.
- Verify appropriate genomes.
- Test Filter.
- Test Epitope action button.

Test Results

- Test results were verified by examination of returned data via inspection and filters.
- All operations performed as expected.

Bacteria

Shigella:

Taxon View

Bacteria » Proteobacteria » Gammaproteobacteria » Enterobacterales » Enterobacteriaceae » Shigella (5460 Genomes)

Overview

Phylogeny

Taxonomy

Genomes

AMR Phenotypes

Sequences

Proteins

Protein Structures

Specialty Genes

Domains and Motifs

Epitopes

Pathways

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KEYWORDS

ADV Search

HIDE

Epitope Type	Protein Name	Host Name	Assay Results
Discontinuous peptide (1)	undefined (3)	Homo sapiens (human) (13)	B cell - Negative (650)
Linear peptide (788)	ATP binding protein (2)	Macaca mulatta (rhesus macaque) (677)	B cell - Positive (137)
Non-peptidic (29)	Arginine 3rd transport system periplasmic binding protein (1)	Mus musculus (mouse) (8)	MHC - Negative (49)
	DDE_Tnp_Tn3 domain-containing protein (1)	Mus musculus 129 (6)	MHC - Positive (73)
	DNA polymerase IV (1)	Mus musculus BALB/c (31)	T cell - Negative (4)
	EAL domain-containing protein (1)	Mus musculus BALB/cByJ (3)	T cell - Positive (1)
	Flavodoxin 1 (2)	Mus musculus C57BL/6 (4)	
	Flavodoxin/ferredoxin--NADP reductase (2)	Mus musculus Swiss Webster (1)	
	GDP-L-fucose synthase (3)	Oryctolagus cuniculus (rabbit) (39)	
	GFO_IDH_MocA domain-containing protein (1)	Oryctolagus cuniculus New Zealand White (3)	
	Hypothetical bacteriophage protein (2)	Platyrrhini (New World monkey) (4)	
	Hypothetical lipoprotein (1)	Rattus norvegicus LOU/C (2)	
	IS1294 ORF (3)	cattle (Bos taurus) (3)	
	IS4 ORF (1)	human (Homo sapiens) (76)	
	IS911 ORF2 (2)	mouse (Mus musculus) (1)	
	ISSf14 ORF2 (3)		

☐	Epitope ID	Epitope Type	Epitope Sequence	Organism	Protein Name	Total Assays	Bcell Assays	Tcell Assays	MHC Assays
☐	16624	Linear peptide	FLGKNKLA	Shigella flexneri	Invasin IpaC	2	0/2		
☐	1679	Linear peptide	AGSKLGLN	Shigella flexneri	Invasin IpaC	2	0/2		
☐	1725	Linear peptide	AGWISPGG	Shigella flexneri	Invasin IpaD	4	3/4		
☐	17665	Linear peptide	FSAEDET	Shigella flexneri	Invasin IpaD	1	1/1		
☐	17676	Linear peptide	FSAVLSSL	Shigella flexneri	Invasin IpaD	1	0/1		
☐	17806	Linear peptide	FSPNNTNG	Shigella flexneri	Invasin IpaD	2	1/2		
☐	1783	Linear peptide	AHIPLNVG	Shigella flexneri	Invasin IpaC	2	0/2		
☐	18640	Linear peptide	GAKKTHSG	Shigella flexneri	Invasin IpaC	2	0/2		
☐	18677	Linear peptide	GALRKNLA	Shigella flexneri	Invasin IpaC	2	0/2		
☐	187622	Linear peptide	AEVYNKDGKNKLD	Shigella flexneri	Outer membrane prot	3	0/3		
☐	187630	Linear peptide	DDNQFTRDAG	Shigella flexneri	Outer membrane prot	3	0/3		
☐	187635	Linear peptide	EGEGMTNNGREALR	Shigella flexneri	Outer membrane prot	3	0/3		
☐	187657	Linear peptide	GNSAENENNSWT	Shigella flexneri	Outer membrane prot	3	0/3		
☐	187660	Linear peptide	GVINGRNTDDED	Shigella flexneri	Outer membrane prot	3	1/3		
☐	187704	Linear peptide	RYDERY	Shigella flexneri	Outer membrane prot	4	3/4		
☐	18829	Linear peptide	GAVTQVGI	Shigella flexneri	Invasin IpaC	2	0/2		
☐	19087	Linear peptide	GDQMISHR	Shigella flexneri	Invasin IpaD	1	0/1		
☐	19473	Linear peptide	GEVVLDNA	Shigella flexneri	Invasin IpaD	1	0/1		
☐	19615	Linear peptide	GFSAEDET	Shigella flexneri	Invasin IpaD	1	0/1		
☐	199	Linear peptide	AAHIPLNV	Shigella flexneri	Invasin IpaC	2	0/2		
☐	19934	Linear peptide	GGNDGNSV	Shigella flexneri	Invasin IpaD	1	0/1		
☐	19935	Linear peptide	GGNGEVVL	Shigella flexneri	Invasin IpaD	1	0/1		

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Keyword: Shigella

Result: (count matches)

Taxon View

Bacteria » Proteobacteria » Gammaproteobacteria » Enterobacterales » Enterobacteriaceae » Shigella (5460 Genomes)

Overview

Phylogeny

Taxonomy

Genomes

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Shigella

KEYWORDS ✕

ADV Search

HIDE

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Discontinuous peptide (1)	undefined (3)	Homo sapiens (human) (13)	B cell - Negative (650)
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	Hypothetical lipoprotein (1)	Rattus norvegicus LOU/C (2)	
	IS1294 ORF (3)	cattle (Bos taurus) (3)	
	IS4 ORF (1)	human (Homo sapiens) (76)	
	ISS11 ORF2 (2)	mouse (Mus musculus) (1)	
	ISSf14 ORF2 (3)		

Epitope ID	Epitope Type	Epitope Sequence	Organism	Protein Name	Total Assays	Bcell Assays	Tcell Assays	MHC Assays
117765	Linear peptide	CAQTDRLHLS	Shigella flexneri	pHS-2	6	6/6		
133754	Non-peptidic	alpha-L-Rhap-(1->2)-L	Shigella flexneri	lipopolysaccharide	6	6/6		
125613	Non-peptidic	alpha-L-Rhap-(1->3)-a	Shigella flexneri	lipopolysaccharide	3	3/3		
130692	Non-peptidic	S. flexneri serotype 5a	Shigella flexneri	lipopolysaccharide	1	1/1		
125992	Linear peptide	FILSGRFSY	Shigella flexneri	glucosyl transferase	3			3/3
126021	Linear peptide	FMAAFYRVM	Shigella boydii	conserved hypothetica	3			3/3
126358	Linear peptide	IWWEQYMQY	Shigella boydii	WbsV	1			1/1
30236	Linear peptide	KDRTLIEQK	Shigella flexneri	Invasin IpaB	2	2/2		
125614	Non-peptidic	alpha-L-Rhap-(1->2)-a	Shigella flexneri	lipopolysaccharide	2	2/2		
130669	Non-peptidic	alpha-L-rhamnopyranc	Shigella dysenteriae	lipopolysaccharide	1	1/1		
133753	Non-peptidic	alpha-L-Rhap-(1->3)-b	Shigella flexneri	lipopolysaccharide	5	5/5		
16624	Linear peptide	FLGKNKLA	Shigella flexneri	Invasin IpaC	2	0/2		
1679	Linear peptide	AGSKLGLN	Shigella flexneri	Invasin IpaC	2	0/2		
17665	Linear peptide	FSAEDET	Shigella flexneri	Invasin IpaD	1	1/1		
17676	Linear peptide	FSVLSSL	Shigella flexneri	Invasin IpaD	1	0/1		
1783	Linear peptide	AHIPLNVG	Shigella flexneri	Invasin IpaC	2	0/2		
18640	Linear peptide	GAKKTHSG	Shigella flexneri	Invasin IpaC	2	0/2		
18677	Linear peptide	GALRKNLA	Shigella flexneri	Invasin IpaC	2	0/2		
18829	Linear peptide	GAVTQVGI	Shigella flexneri	Invasin IpaC	2	0/2		
19087	Linear peptide	GDMISHR	Shigella flexneri	Invasin IpaD	1	0/1		
19473	Linear peptide	GEVVDNA	Shigella flexneri	Invasin IpaD	1	0/1		
19615	Linear peptide	GFSAEDET	Shigella flexneri	Invasin IpaD	1	0/1		

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< 1 2 3 ... 5 >

Epitope action button – Overview:

 Epitope View
1679 | AGSKLGLN | Shigella flexneri

Overview Assays

 **1679**

Epitope ID	1679
Epitope Type	Linear peptide
Epitope Sequence	AGSKLGLN
Organism	Shigella flexneri
Taxon ID	623
Protein Name	Invasin IpaC
Protein ID	P18012.2
Protein Accession	P18012
Start	201
End	208
Host Name	Macaca mulatta (rhesus macaque)
Total Assays	2
Assay Results	B cell - Negative
B Cell Assays	0/2
Comments	

Epitope action button – Assays:

 Epitope View
1679 | AGSKLGLN | Shigella flexneri

Overview **Assays**

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 FILTERS

☐	Assay ID	Assay Type	Host Name	Assay Group	Assay Method	Assay Result	Assay Measurement	Assay Measurement Unit	MHC Allele	MHC Allele Class	PMID 
☐	1269099	B cell	Macaca mulatta (rhesu	qualitative bi	ELISA	Negative					7558301
☐	1269098	B cell	Macaca mulatta (rhesu	qualitative bi	ELISA	Negative					7558301

Virus

Influenza A:

Taxon View

Bacteria » Proteobacteria » Gammaproteobacteria » Enterobacterales » Enterobacteriaceae » Shigella (5460 Genomes)

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Shigella

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Non-peptidic (29)	Arginine 3rd transport system periplasmic binding protein (1)	Mus musculus (mouse) (8)	MHC - Negative (49)
	DDE_Tnp_Tn3 domain-containing protein (1)	Mus musculus 129 (6)	MHC - Positive (73)
	DNA polymerase IV (1)	Mus musculus BALB/c (31)	T cell - Negative (4)
	EAL domain-containing protein (1)	Mus musculus BALB/cByJ (3)	T cell - Positive (1)
	Flavodoxin 1 (2)	Mus musculus C57BL/6 (4)	
	Flavodoxin/ferredoxin--NADP reductase (2)	Mus musculus Swiss Webster (1)	
	GDP-L-fucose synthase (3)	Oryctolagus cuniculus (rabbit) (39)	
	GFO_IDH_MocA domain-containing protein (1)	Oryctolagus cuniculus New Zealand White (3)	
	Hypothetical bacteriophage protein (2)	Platyrrhini (New World monkey) (4)	
	Hypothetical lipoprotein (1)	Rattus norvegicus LOU/C (2)	
	IS1294 ORF (3)	cattle (Bos taurus) (3)	
	IS4 ORF (1)	human (Homo sapiens) (76)	
	IS911 ORF2 (2)	mouse (Mus musculus) (1)	
	ISSfI4 ORF2 (3)		

Epitope ID	Epitope Type	Epitope Sequence	Organism	Protein Name	Total Assays	Bcell Assays	Tcell Assays	MHC Assays
☐ 117765	Linear peptide	CAQTDRLHLS	Shigella flexneri	pHS-2	6	6/6		
☐ 133754	Non-peptidic	alpha-L-Rhap-(1->2)-L	Shigella flexneri	lipopolysaccharide	6	6/6		
☐ 125613	Non-peptidic	alpha-L-Rhap-(1->3)-a	Shigella flexneri	lipopolysaccharide	3	3/3		
☐ 130692	Non-peptidic	S. flexneri serotype 5a	Shigella flexneri	lipopolysaccharide	1	1/1		
☐ 125992	Linear peptide	FILSGRFSY	Shigella flexneri	glucosyl transferase	3			3/3
☐ 126021	Linear peptide	FMAAFYRVM	Shigella boydii	conserved hypothetical	3			3/3
☐ 126358	Linear peptide	IWWEQYMQY	Shigella boydii	WbsV	1			1/1
☐ 30236	Linear peptide	KDRTLIEQK	Shigella flexneri	Invasin IpaB	2	2/2		
☐ 125614	Non-peptidic	alpha-L-Rhap-(1->2)-a	Shigella flexneri	lipopolysaccharide	2	2/2		
☐ 130669	Non-peptidic	alpha-L-rhamnopyranc	Shigella dysenteriae	lipopolysaccharide	1	1/1		
☐ 133753	Non-peptidic	alpha-L-Rhap-(1->3)-b	Shigella flexneri	lipopolysaccharide	5	5/5		
☐ 16624	Linear peptide	FLGKNKLA	Shigella flexneri	Invasin IpaC	2	0/2		
☐ 1679	Linear peptide	AGSKLGLN	Shigella flexneri	Invasin IpaC	2	0/2		
☐ 17665	Linear peptide	FSAEDET	Shigella flexneri	Invasin IpaD	1	1/1		
☐ 17676	Linear peptide	FSAVLSSL	Shigella flexneri	Invasin IpaD	1	0/1		
☐ 1783	Linear peptide	AHIPLNVG	Shigella flexneri	Invasin IpaC	2	0/2		
☐ 18640	Linear peptide	GAKKTHSG	Shigella flexneri	Invasin IpaC	2	0/2		
☐ 18677	Linear peptide	GALRKNLA	Shigella flexneri	Invasin IpaC	2	0/2		
☐ 18829	Linear peptide	GAVTQVGI	Shigella flexneri	Invasin IpaC	2	0/2		
☐ 19087	Linear peptide	GDQMISHR	Shigella flexneri	Invasin IpaD	1	0/1		
☐ 19473	Linear peptide	GEVVLDNA	Shigella flexneri	Invasin IpaD	1	0/1		
☐ 19615	Linear peptide	GFSAEDET	Shigella flexneri	Invasin IpaD	1	0/1		

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< 1 2 3 ... 5 >

Filter: B Cell - negative

Taxon View

Viruses » Negamaviricota » Insthoviricetes » Articulavirales » Orthomyxoviridae » Alphainfluenzavirus » Influenza A virus (810384 Genomes)

Overview

Taxonomy

Strains

Genomes

Proteins

Protein Structures

Domains and Motifs

Epitopes

Experiments

Surveillance

Serology

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KEYWORDS

ADV Search

B cell - Negative

ASSAY_RESULTS

HIDE

Epitope Type

Protein Name

Host Name

Assay Results

Discontinuous peptide (62)

Discontinuous peptide on multi chain (8)

Linear peptide (289)

Hemagglutinin (289)

Matrix protein 1 (1)

Matrix protein 2 (23)

Neuraminidase (22)

Non-structural protein 1 (1)

Canis familiaris beagle (2)

Capra hircus (domestic goat) (1)

Gallus gallus (chicken) (5)

Gallus gallus Leghorn (1)

Gallus gallus White Leghorn (19)

B cell - Negative (359)

B cell - Positive (1241)

MHC - Negative (1714)

MHC - Positive (1785)

T cell - (1)

☐	Epitope ID	Epitope Type	Epitope Sequence	Organism	Protein Name	Total Assays	Bcell Assays	Tcell Assays	MHC Assays
☐	176782	Discontinuous peptide	Y115, T148, G151, G152	Influenza A virus	Hemagglutinin	14	12/14		
☐	177101	Linear peptide	IATRSKVNQGSGRM	Influenza A virus	Hemagglutinin	8	7/8		
☐	178126	Linear peptide	EITTHFQRKRRVRDNI	Influenza A virus	RNA-directed RNA poly	1	0/1		
☐	178134	Linear peptide	GINDRFNFWRGENGRI	Influenza A virus	Nucleoprotein	1	0/1		
☐	178135	Linear peptide	GIQAGVNRFYRTCKLV	Influenza A virus	RNA-directed RNA poly	1	0/1		
☐	178145	Linear peptide	LFKCIYRRFYKGLKR	Influenza A virus	Matrix protein 2	1	0/1		
☐	178154	Linear peptide	QRTIGKKQRLNKRST	Influenza A virus	RNA-directed RNA poly	1	0/1		
☐	178158	Linear peptide	RTRALVRTGMDPRMC	Influenza A virus	Nucleoprotein	1	0/1		
☐	180309	Discontinuous peptide	G147, V148, S149, A150	Influenza A virus	Hemagglutinin	23	22/23		
☐	180352	Discontinuous peptide	Y114, T147, N149, G151	Influenza A virus	Hemagglutinin	41	39/41		
☐	180911	Linear peptide	KSTQNAIDGITNKVNS	Influenza A virus	Hemagglutinin	8	4/8		
☐	180912	Linear peptide	KSTQNAINGITNKVNS	Influenza A virus	Hemagglutinin	4	3/4		
☐	189120	Linear peptide	LVALENQHTIDLTDSER	Influenza A virus	Hemagglutinin	3	2/3		
☐	190870	Linear peptide	NIPSRISIIYWTIVKPGD	Influenza A virus	Hemagglutinin	3	1/3		
☐	204001	Linear peptide	CFEFYHKDNTCMES	Influenza A virus	Hemagglutinin	6	2/3	0/2	0/1
☐	20723	Linear peptide	GKVTVSTKRSQQTIPI	Influenza A virus	Hemagglutinin	6	5/6		
☐	20838	Linear peptide	GLFGAIAGFIE	Influenza A virus	Hemagglutinin	23	18/19	0/4	
☐	20839	Linear peptide	GLFGAIAGFIEG	Influenza A virus	Hemagglutinin	1	0/1		
☐	20840	Linear peptide	GLFGAIAGFIEG + N	Influenza A virus	Hemagglutinin	2	0/2		
☐	213203	Linear peptide	KLCKLRGVAPLHLGK	Influenza A virus	Hemagglutinin	4	1/3		0/1
☐	21447	Linear peptide	GNIRCNICI	Influenza A virus	Hemagglutinin	1	0/1		
☐	215815	Linear peptide	NDKHSNGTIKDRSPY	Influenza A virus	Neuraminidase	3	1/2		0/1
☐	221495	Linear peptide	WMCSNGSLQCRICI	Influenza A virus	Hemagglutinin	3	1/2		0/1
☐	225199	Discontinuous peptide	A198, S199, R201	Influenza A virus	Hemagglutinin	5	4/5		
☐	225684	Linear peptide	AKRPKVRDQEGRINY	Influenza A virus	Hemagglutinin	2	0/2		
☐	225720	Linear peptide	DYASRLSVASSGTLE	Influenza A virus	Hemagglutinin	2	0/2		
☐	225722	Linear peptide	ENAYVSVVSSHYSRK	Influenza A virus	Hemagglutinin	4	3/4		
☐	225724	Linear peptide	EPGDTIIFEANGNIAP	Influenza A virus	Hemagglutinin	2	1/2		
☐	225726	Linear peptide	ESWSYIVEKPNPENG	Influenza A virus	Hemagglutinin	2	1/2		
☐	225728	Linear peptide	FALSRGFGSGIINSNAI	Influenza A virus	Hemagglutinin	2	0/2		
☐	225729	Linear peptide	FDKLYIWGVHHPGTDI	Influenza A virus	Hemagglutinin	2	0/2		

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<

1

2

>

Epitope button:

☐	178145	Linear peptide	LFFKCIYRRFK	Influenza A virus	Matrix protein 2	1	0/1		
☒	178154	Linear peptide	QRTIGKKKQRL	Influenza A virus	RNA-directed R	1	0/1		
☐	178158	Linear peptide	RTRALVRTGM	Influenza A virus	Nucleoprotein	1	0/1		
☐	180309	Discontinuous p	G147, V148, S1	Influenza A virus	Hemagglutinin	23	22/23		



Epitope View
178154 | QRTIGKKKQRLNKRSYLIRA | Influenza A virus

Overview

Assays

178154

Epitope ID	178154
Epitope Type	Linear peptide
Epitope Sequence	QRTIGKKKQRLNKRSYLIRA
Organism	Influenza A virus
Taxon ID	11320
Protein Name	RNA-directed RNA polymerase catalytic subunit
Protein ID	ABR31781.1
Protein Accession	P03431
Start	202
End	221
Host Name	Oryctolagus cuniculus (rabbit)
Total Assays	1
Assay Results	B cell - Negative
B Cell Assays	0/1
Comments	



Epitope View
178154 | QRTIGKKKQRLNKRSYLIRA | Influenza A virus

Overview

Assays



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KEYWORDS



ADV Search



FILTERS

☐	Assay ID	Assay Type	Host Name	Assay Group	Assay Method	Assay Result	Assay Measurem	Assay Measurem Unit	MHC Allele	MHC Allele Class	PMID
☐	1967655	B cell	Oryctolagus cuniculus	(qualitative bi	antigen inhib	Negative					23022629