

BV-BRC Test Report

D11. Specialty Genes Data Tab

| | |
|----------------------|---|
| Item to test | Specialty Genes Data Tab |
| URL | https://www.bv-brc.org/view/Taxonomy/32008#view_tab=specialtyGenes&filter=false |
| Prerequisites | None |
| References | https://www.bv-brc.org/docs/quick_references/organisms_taxon/specialty_genes.html |
| Tester(s) | Rebecca Wattam, Ron Kenyon |
| Test date | 6-Jan-2022 (original – passed), 9-May-2022 (follow-up-passed) |
| Test result | Passed |

Overview

- Test the Specialty Genes Tab with example bacterial data.
- Verify display of Specialty Genes category
- Test Pathway action button.

Test Results

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

Burkholderia:

Taxon View

Bacteria » Proteobacteria » Betaproteobacteria » Burkholderiales » Burkholderiaceae » **Burkholderia** (5077 Genomes)

Overview | Phylogeny | Taxonomy | Genomes | AMR Phenotypes | Sequences | Proteins | Protein Structures | **Specialty Genes** | Domains and Motifs | Epitopes | Pathways



KEYWORDS



| Public | Property | Source | Evidence | Classification | Antibiotics Class |
|---------|---|---|--|---|---|
| 1251018 | Antibiotic Resistance (363064) Drug Target (65209) Essential Gene (5963) Human Homolog (155318) Transporter (130816) Virulence Factor (530648) | ARDB (365) CARD (18395) DrugBank (55665) Human (155318) NDARO (6555) PATRIC (343712) PATRIC_VF (4883) TCDB (130816) TTD (9544) VFDB (361236) Victors (164529) | BLASTP (163619) BLAT (743631) FBA (5963) K-mer Search (337749) Literature (56) | undefined (270522) cassette (1) or operon (1) "antibiotic resistance gene cluster (1) 1.A.104.1.1 (1) 1.A.11.1.4 (1) 1.A.14.2.2 (1) 1.A.14.2.6 (2) 1.A.16.1.1 (1) 1.A.2.2.1 (2378) 1.A.2.2.5 (30) 1.A.22.1.1 (1) | undefined (272643) Aminocoumarin antit Aminoglycoside (4) Aminoglycosides (87) Beta-lactam (8) Beta-lactam antibioti Bicyclomycins (2878) Carbapenem (2814) Carbapenems, Phen Cephalosporins (2) Cephalosporins, Pen Cephalosporins, Pen |

| <input type="checkbox"/> | Evidence | Property | Source | BRC ID | RefSeq Locus Tag | Source ID | Gene | Product | Pubmed | Identity | E-value |
|--------------------------|------------|--------------------|---------|------------------------|-------------------|-----------|----------|---|----------------|----------|---------|
| <input type="checkbox"/> | BLAT | Virulence Factor | VFDB | fig 28450.924.peg.50f | SAMEA2064040_034 | VFG002431 | pilR | Integral membrane protein | | 100 | 1e-203 |
| <input type="checkbox"/> | BLAT | Virulence Factor | Victors | fig 57975.28.peg.370f | A8H34_16740 | 15676646 | hfq | RNA-binding protein Hfq | 19223479 | 91 | 2e-27 |
| <input type="checkbox"/> | BLAT | Virulence Factor | Victors | fig 1090375.4.peg.53f | | 15676067 | | Translation elongation factor Tu | 11062540 | 91 | 2e-10 |
| <input type="checkbox"/> | BLAT | Transporter | TCDB | fig 28450.1117.peg.49f | SAMEA1972735_031 | Q2SV43 | | hypothetical protein | | 91 | 0.0 |
| <input type="checkbox"/> | BLASTP | Human Homolog | Human | fig 1321249.3.peg.54f | | NP_001924 | | Dihydroipoamide succinyltransferase component (E2) | | 56 | 0 |
| <input type="checkbox"/> | K-mer Sean | Antibiotic Resista | PATRIC | fig 28450.268.peg.48f | ERS013360_03912 | | | DNA-binding protein H-NS | 14973023 | | |
| <input type="checkbox"/> | BLAT | Virulence Factor | VFDB | fig 57975.12.peg.384f | AQ477_17045 | VFG00251f | figJ | Flagellar protein FigJ [peptidoglycan hydrolase] | | 93 | 1e-162 |
| <input type="checkbox"/> | K-mer Sean | Antibiotic Resista | PATRIC | fig 1248414.3.peg.36f | | | | DNA-binding protein H-NS | 14973023 | | |
| <input type="checkbox"/> | BLASTP | Virulence Factor | VFDB | fig 28450.652.peg.49f | BOC38_23715 | VFG2475 | | T6SS component TssC (ImpC/VipB) | | 100 | 0 |
| <input type="checkbox"/> | K-mer Sean | Antibiotic Resista | PATRIC | fig 28450.496.peg.16f | AQ817_00015 | | | Outer membrane factor (OMF) lipoprotein associated wt ; | | | |
| <input type="checkbox"/> | K-mer Sean | Antibiotic Resista | PATRIC | fig 179879.28.peg.24f | | | OxyR | Hydrogen peroxide-inducible genes activator => OxyR | 25799046 | | |
| <input type="checkbox"/> | BLAT | Transporter | TCDB | fig 28450.1020.peg.1f | SAMEA2065073_036 | A4LTL1 | oprB | Outer membrane low permeability porin, OprB family | | 99 | 1e-301 |
| <input type="checkbox"/> | BLASTP | Human Homolog | Human | fig 441155.4.peg.363f | BpseB_01010002164 | NP_001677 | | ATP synthase beta chain (EC 3.6.3.14) | | 69 | 0.0 |
| <input type="checkbox"/> | BLASTP | Human Homolog | Human | fig 101571.230.peg.1f | WM17_08555 | NP_079034 | | hypothetical protein | | 54 | 2e-18 |
| <input type="checkbox"/> | BLASTP | Human Homolog | Human | fig 101571.150.peg.4f | | NP_071403 | | Succinyl-CoA:3-ketoacid-coenzyme A transferase subur | | 70 | 8e-58 |
| <input type="checkbox"/> | BLAT | Virulence Factor | VFDB | fig 1249476.3.peg.53f | BBS_4566 | VFG00245f | | Type III secretion cytoplasmic ATP synthase (EC 3.6.3.1 | | 100 | 1e-247 |
| <input type="checkbox"/> | BLAT | Transporter | TCDB | fig 292.59.peg.2380 | W160_00975 | E5AN59 | | Predicted membrane protein | | 81 | 3e-48 |
| <input type="checkbox"/> | K-mer Sean | Antibiotic Resista | PATRIC | fig 28450.962.peg.16f | SAMEA2068024_011f | | gyrB | DNA gyrase subunit B (EC 5.99.1.3) | 21693461,22279 | | |
| <input type="checkbox"/> | BLASTP | Human Homolog | Human | fig 1090379.4.peg.23f | | NP_001152 | | Isovaleryl-CoA dehydrogenase (EC 1.3.8.4) | | 62 | 3e-21 |
| <input type="checkbox"/> | BLAT | Virulence Factor | VFDB | fig 28095.138.peg.84f | | VFG00242f | pilA | Type IV pilin PilA | | 82 | 4e-74 |
| <input type="checkbox"/> | BLAT | Virulence Factor | Victors | fig 28095.191.peg.14f | | 53718277 | BPSL0634 | FAD/FMN-containing dehydrogenases | 17189432 | 91 | 0.0 |
| <input type="checkbox"/> | BLAT | Transporter | TCDB | fig 28450.1384.peg.5f | SAMEA2065969_044 | V5BTU4 | arnT | Undecaprenyl phosphate-alpha-4-amino-4-deoxy-L-arat | | 80 | 1e-259 |
| <input type="checkbox"/> | BLASTP | Human Homolog | Human | fig 95486.202.peg.60f | A8F25_01405 | NP_000427 | | Succinyl-CoA:3-ketoacid-coenzyme A transferase subur | | 58 | 0 |
| <input type="checkbox"/> | BLAT | Virulence Factor | VFDB | fig 57975.37.peg.410f | A8H36_00610 | VFG00243f | piIT | Twitching motility protein PIIT | | 97 | 1e-201 |
| <input type="checkbox"/> | K-mer Sean | Antibiotic Resista | PATRIC | fig 87883.250.peg.24f | DN551_17525 | | | LSU ribosomal protein L6p (L9e) | 19289529;17923 | | |

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< 1 2 3 ... 6256 >

Filter: ARDB

Taxon View
 Bacteria » Proteobacteria » Betaproteobacteria » Burkholderiales » Burkholderiaceae » **Burkholderia** (5077 Genomes)

Overview Phylogeny Taxonomy Genomes AMR Phenotypes Sequences Proteins Protein Structures **Specialty Genes** Domains and Motifs Epitopes Pathways

| Public | Property | Source | Evidence | Classification |
|------------|-----------------------------|--|--------------|--|
| true (365) | Antibiotic Resistance (365) | ARDB (365) CARD (18395) DrugBank (55665) Human (155318) NDARO (6555) PATRIC (343712) PATRIC_VF (4883) TCDB (130816) TTD (9544) VFDB (361236) Victors (164529) | BLASTP (365) | Aminoglycoside,Macrolide,Acriflavine (120) Bacitracin (58) Chloramphenicol (167) Streptomycin (2) Sulfonamide (12) Tetracycline (6) |

| <input type="checkbox"/> | Evidence | Property | Source | BRC ID | RefSeq Locus Tag | Source ID | Gene | Product | Pubmed | Identity | E-value |
|--------------------------|----------|--------------------|--------|-----------------|------------------|-----------|------|---|-----------------|----------|---------|
| <input type="checkbox"/> | BLASTP | Antibiotic Resista | ARDB | fig 292.125.p | CEQ23_21580 | YP_369007 | | Multidrug efflux system, inner membrane proton/drug an | 10049252 | 95 | 0 |
| <input type="checkbox"/> | BLASTP | Antibiotic Resista | ARDB | fig 95486.314.p | UE94_18515 | YP_002235 | | RND efflux system, membrane fusion protein | | 100 | 0 |
| <input type="checkbox"/> | BLASTP | Antibiotic Resista | ARDB | fig 1561196.3.p | 290 | YP_002235 | | RND efflux system, inner membrane transporter | 15377793 | 89 | 0.0 |
| <input type="checkbox"/> | BLASTP | Antibiotic Resista | ARDB | fig 28450.647.p | BOC48_00220 | AAC27753 | | Multidrug efflux system, membrane fusion component = | 10049252 | 100 | 0 |
| <input type="checkbox"/> | BLASTP | Antibiotic Resista | ARDB | fig 28450.652.p | BOC38_18900 | ZP_025061 | | Multidrug efflux system, inner membrane proton/drug an | 10049252 | 100 | 0 |
| <input type="checkbox"/> | BLASTP | Antibiotic Resista | ARDB | fig 28450.668.p | BOC56_06450 | YP_037919 | | Efflux transport system, outer membrane factor (OMF) li | 15377794 | 100 | 0.0 |
| <input type="checkbox"/> | BLASTP | Antibiotic Resista | ARDB | fig 87883.90.p | UA12_01542 | YP_001764 | | Multidrug efflux system, membrane fusion component = | 10049252 | 86 | 0 |
| <input type="checkbox"/> | BLASTP | Antibiotic Resista | ARDB | fig 28450.711.p | BOC57_00130 | ZP_037919 | | Efflux transport system, outer membrane factor (OMF) li | 15377794 | 100 | 0 |
| <input type="checkbox"/> | BLASTP | Antibiotic Resista | ARDB | fig 28450.648.p | BOC53_28945 | AAC27753 | | Multidrug efflux system, membrane fusion component = | 10049252 | 100 | 0 |
| <input type="checkbox"/> | BLASTP | Antibiotic Resista | ARDB | fig 87883.91.p | UA18_03735 | ZP_035832 | | RND efflux system, inner membrane transporter | 15377793 | 99 | 0 |
| <input type="checkbox"/> | BLASTP | Antibiotic Resista | ARDB | fig 95486.315.p | BCN122_II2986 | YP_002235 | | RND efflux system, inner membrane transporter | 15377793 | 100 | 0 |
| <input type="checkbox"/> | BLASTP | Antibiotic Resista | ARDB | fig 28450.712.p | BOC50_34205 | YP_002092 | | Undecaprenyl-diphosphatase (EC 3.6.1.27) | 319453 | 83 | 0 |
| <input type="checkbox"/> | BLASTP | Antibiotic Resista | ARDB | fig 95486.311.p | UE98_39220 | CAM88407 | | Tetracycline resistance, MFS efflux pump => Tet(G) | 11381101, 14799 | 100 | 0 |
| <input type="checkbox"/> | BLASTP | Antibiotic Resista | ARDB | fig 28450.659.p | BOC51_00200 | YP_001058 | | Multidrug efflux system, membrane fusion component = | 10049252 | 100 | 0 |
| <input type="checkbox"/> | BLASTP | Antibiotic Resista | ARDB | fig 87883.88.p | UA21_03212 | ZP_035801 | | RND efflux system, membrane fusion protein | | 100 | 0 |
| <input type="checkbox"/> | BLASTP | Antibiotic Resista | ARDB | fig 28450.646.p | BOC47_04350 | ZP_025061 | | Multidrug efflux system, inner membrane proton/drug an | 10049252 | 100 | 0.0 |
| <input type="checkbox"/> | BLASTP | Antibiotic Resista | ARDB | fig 87883.89.p | UA11_03387 | ZP_035739 | opcM | Efflux transport system, outer membrane factor (OMF) li | | 100 | 0 |
| <input type="checkbox"/> | BLASTP | Antibiotic Resista | ARDB | fig 28450.712.p | BOC50_10295 | ZP_024738 | | RND efflux system, membrane fusion protein | | 100 | 0 |
| <input type="checkbox"/> | BLASTP | Antibiotic Resista | ARDB | fig 28450.662.p | BOC59_00135 | AAC27753 | | Multidrug efflux system, membrane fusion component = | 10049252 | 100 | 0 |
| <input type="checkbox"/> | BLASTP | Antibiotic Resista | ARDB | fig 28450.646.p | BOC47_04345 | ZP_037919 | | Efflux transport system, outer membrane factor (OMF) li | 15377794 | 100 | 0 |
| <input type="checkbox"/> | BLASTP | Antibiotic Resista | ARDB | fig 32009.3.p | CEJ98_04165 | YP_002092 | | Undecaprenyl-diphosphatase (EC 3.6.1.27) | 319453 | 84 | 0 |
| <input type="checkbox"/> | BLASTP | Antibiotic Resista | ARDB | fig 28450.652.p | BOC38_18895 | ZP_037919 | | Efflux transport system, outer membrane factor (OMF) li | 15377794 | 100 | 0 |
| <input type="checkbox"/> | BLASTP | Antibiotic Resista | ARDB | fig 28450.651.p | BOC35_07485 | ZP_025086 | | RND efflux system, membrane fusion protein | | 100 | 0 |
| <input type="checkbox"/> | BLASTP | Antibiotic Resista | ARDB | fig 87883.85.p | UA17_03382 | ZP_035832 | | RND efflux system, inner membrane transporter | 15377793 | 99 | 0 |
| <input type="checkbox"/> | BLASTP | Antibiotic Resista | ARDB | fig 87883.90.p | UA12_02244 | YP_002099 | | Undecaprenyl-diphosphatase (EC 3.6.1.27) | 319453 | 94 | 0.0 |

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1 2 >

Pathways action button:

| | | | | | | | | |
|-------------------------------------|--------------|--------------------|--------|-----------------------|------------------|-----------|--|---|
| <input type="checkbox"/> | BLAT | Transporter | TCDB | fig 28450.1117.peg.49 | SAMEA1972735_031 | Q2SV43 | hypothetical protein | |
| <input checked="" type="checkbox"/> | BLASTP | Human Homolog | Human | fig 1321249.3.peg.54 | | NP_001924 | Dihydroipoamide succinyltransferase component (E2) o | |
| <input type="checkbox"/> | K-mer Search | Antibiotic Resista | PATRIC | fig 28450.268.peg.48 | ERS013360_03912 | | DNA-binding protein H-NS | 1 |



Pathway Summary

Out of 1 genes selected, 1 genes found in 2 pathways



DOWNLOAD

| <input type="checkbox"/> | Pathway Name | # of Genes Selected | # of Genes Annotated | % Coverage | |
|--------------------------|---------------------------|---------------------|----------------------|------------|--|
| <input type="checkbox"/> | Citrate cycle (TCA cycle) | 1 | 22 | 4 | |
| <input type="checkbox"/> | Lysine degradation | 1 | 42 | 2 | |