


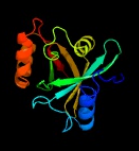
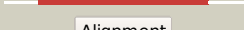

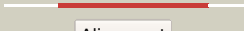









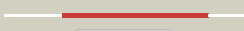







Phyre2

| | |
|---------------|----------------------------------|
| Email | mdejesus@rockefeller.edu |
| Description | RVBD3547 (-) _3987023_3987478 |
| Date | Fri Aug 9 18:20:22 BST 2019 |
| Unique Job ID | a9f0604c5d95243e |

Detailed template information

| # | Template | Alignment Coverage | 3D Model | Confidence | % i.d. | Template Information |
|----|-------------------------|---|---|------------|--------|---|
| 1 | c3r5zB_ |  Alignment |  | 100.0 | 41 | PDB header: unknown function Chain: B: PDB Molecule: putative uncharacterized protein; PDBTitle: structure of a deazaflavin-dependent reductase from nocardia2 farcinica, with co-factor f420 |
| 2 | c3r5yC_ |  Alignment |  | 100.0 | 40 | PDB header: unknown function Chain: C: PDB Molecule: putative uncharacterized protein; PDBTitle: structure of a deazaflavin-dependent nitroreductase from nocardia2 farcinica, with co-factor f420 |
| 3 | c3h96B_ |  Alignment |  | 100.0 | 33 | PDB header: flavoprotein Chain: B: PDB Molecule: f420-h2 dependent reductase a; PDBTitle: msmeq_3358 f420 reductase |
| 4 | c4y9iA_ |  Alignment |  | 100.0 | 45 | PDB header: oxidoreductase Chain: A: PDB Molecule: mycobacterium tuberculosis paralogous family 11; PDBTitle: structure of f420-h2 dependent reductase (fdr-a) msmeq_2027 |
| 5 | c3r5wO_ |  Alignment |  | 100.0 | 100 | PDB header: oxidoreductase Chain: O: PDB Molecule: deazaflavin-dependent nitroreductase; PDBTitle: structure of ddn, the deazaflavin-dependent nitroreductase from2 mycobacterium tuberculosis involved in bioreductive activation of pa-3 824, with co-factor f420 |
| 6 | c3f7eB_ |  Alignment |  | 99.0 | 24 | PDB header: unknown function Chain: B: PDB Molecule: pyridoxamine 5'-phosphate oxidase-related, fmn- PDBTitle: msmeq_3380 f420 reductase |
| 7 | c2iabB_ |  Alignment |  | 98.9 | 20 | PDB header: unknown function Chain: B: PDB Molecule: hypothetical protein; PDBTitle: crystal structure of a protein with fmn-binding split barrel fold2 (np_828636.1) from streptomyces avermitilis at 2.00 a resolution |
| 8 | d1rfea_ |  Alignment |  | 98.7 | 16 | Fold: Split barrel-like Superfamily: FMN-binding split barrel Family: PNP-oxidase like |
| 9 | d2asfa1 |  Alignment |  | 98.6 | 17 | Fold: Split barrel-like Superfamily: FMN-binding split barrel Family: PNP-oxidase like |
| 10 | c4zkyB_ |  Alignment |  | 98.5 | 24 | PDB header: oxidoreductase Chain: B: PDB Molecule: pyridoxamine 5-phosphate oxidase; PDBTitle: structure of f420 binding protein, msmeq_6526, from mycobacterium2 smegmatis |
| 11 | c3tgvD_ |  Alignment |  | 98.5 | 22 | PDB header: heme binding protein Chain: D: PDB Molecule: heme-binding protein hutz; PDBTitle: crystal structure of hutz, the heme storage protein from vibrio2 cholerae |

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|----|-------------------------|-----------|--------------|------|----|---|
| 12 | d1w9aa_ | Alignment | | 98.4 | 14 | Fold: Split barrel-like Superfamily: FMN-binding split barrel Family: PNP-oxidase like |
| 13 | c3db0B_ | Alignment | | 98.4 | 22 | PDB header: oxidoreductase Chain: B: PDB Molecule: lin2891 protein; PDBTitle: crystal structure of putative pyridoxamine 5'-phosphate oxidase2 (np_472219.1) from listeria innocua at 2.00 a resolution |
| 14 | d1vl7a_ | Alignment | | 98.4 | 20 | Fold: Split barrel-like Superfamily: FMN-binding split barrel Family: PNP-oxidase like |
| 15 | c2htiA_ | Alignment | | 98.2 | 21 | PDB header: fmn-binding protein Chain: A: PDB Molecule: bh0577 protein; PDBTitle: crystal structure of a flavin-nucleotide-binding protein (bh_0577)2 from bacillus halodurans at 2.50 a resolution |
| 16 | d2htia1 | Alignment | | 98.2 | 21 | Fold: Split barrel-like Superfamily: FMN-binding split barrel Family: PNP-oxidase like |
| 17 | d2i02a1 | Alignment | | 98.2 | 15 | Fold: Split barrel-like Superfamily: FMN-binding split barrel Family: PNP-oxidase like |
| 18 | d2fg9a1 | Alignment | | 98.2 | 16 | Fold: Split barrel-like Superfamily: FMN-binding split barrel Family: PNP-oxidase like |
| 19 | d2hq9a1 | Alignment | | 98.1 | 23 | Fold: Split barrel-like Superfamily: FMN-binding split barrel Family: PNP-oxidase like |
| 20 | c3dnhB_ | Alignment | | 98.1 | 18 | PDB header: structural genomics, unknown function Chain: B: PDB Molecule: uncharacterized protein atu2129; PDBTitle: the crystal structure of the protein atu2129 (unknown function) from2 agrobacterium tumefaciens str. c58 |
| 21 | c5bncB_ | Alignment | not modelled | 98.0 | 18 | PDB header: heme binding protein Chain: B: PDB Molecule: heme binding protein msmeg_6519; PDBTitle: structure of heme binding protein msmeg_6519 from mycobacterium2 smegmatis |
| 22 | c2hhzA_ | Alignment | not modelled | 98.0 | 19 | PDB header: oxidoreductase Chain: A: PDB Molecule: pyridoxamine 5'-phosphate oxidase-related2; PDBTitle: crystal structure of a pyridoxamine 5'-phosphate oxidase-related2 protein (ssuidraft_2804) from streptococcus suis 89/1591 at 2.00 a3 resolution |
| 23 | d2arza1 | Alignment | not modelled | 98.0 | 27 | Fold: Split barrel-like Superfamily: FMN-binding split barrel Family: PNP-oxidase like |
| 24 | c3ec6A_ | Alignment | not modelled | 97.9 | 18 | PDB header: structural genomics, unknown function Chain: A: PDB Molecule: general stress protein 26; PDBTitle: crystal structure of the general stress protein 26 from bacillus2 anthracis str. Sterne |
| 25 | c2ig6B_ | Alignment | not modelled | 97.9 | 22 | PDB header: oxidoreductase Chain: B: PDB Molecule: nimc/nima family protein; PDBTitle: crystal structure of a nimc/nima family protein (ca_c2569) from2 clostridium acetobutylicum at 1.80 a resolution |
| 26 | c2re7A_ | Alignment | not modelled | 97.9 | 15 | PDB header: oxidoreductase Chain: A: PDB Molecule: uncharacterized protein; PDBTitle: crystal structure of a pyridoxamine 5'-phosphate oxidase related2 protein (psyc_0186) from psychrobacter arcticus 273-4 at 2.50 a3 resolution |
| 27 | c3gasA_ | Alignment | not modelled | 97.8 | 15 | PDB header: oxidoreductase Chain: A: PDB Molecule: heme oxygenase; PDBTitle: crystal structure of helicobacter pylori heme oxygenase hug2 in complex with heme |
| | | | | | | Fold: Split barrel-like |

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|----|-------------------------|-----------|--------------|------|----|---|
| 28 | d2hq7a1 | Alignment | not modelled | 97.8 | 14 | Superfamily: FMN-binding split barrel Family: PNP-oxidase like |
| 29 | d2a2ja1 | Alignment | not modelled | 97.8 | 11 | Fold: Split barrel-like Superfamily: FMN-binding split barrel Family: PNP-oxidase like |
| 30 | d2fura1 | Alignment | not modelled | 97.7 | 20 | Fold: Split barrel-like Superfamily: FMN-binding split barrel Family: PNP-oxidase like |
| 31 | c2a2jA | Alignment | not modelled | 97.7 | 12 | PDB header: oxidoreductase Chain: A: PDB Molecule: pyridoxamine 5'-phosphate oxidase; PDBTitle: crystal structure of a putative pyridoxine 5'-phosphate oxidase2 (rv2607) from mycobacterium tuberculosis |
| 32 | d2fhqa1 | Alignment | not modelled | 97.6 | 24 | Fold: Split barrel-like Superfamily: FMN-binding split barrel Family: PNP-oxidase like |
| 33 | c4ybnB | Alignment | not modelled | 97.6 | 24 | PDB header: oxidoreductase Chain: B: PDB Molecule: flavin-nucleotide-binding protein; PDBTitle: structure of the fad and heme binding protein msmeg_4975 from2 mycobacterium smegmatis |
| 34 | d1ty9a | Alignment | not modelled | 97.6 | 14 | Fold: Split barrel-like Superfamily: FMN-binding split barrel Family: PNP-oxidase like |
| 35 | d1t9ma | Alignment | not modelled | 97.6 | 21 | Fold: Split barrel-like Superfamily: FMN-binding split barrel Family: PNP-oxidase like |
| 36 | c3fkhB | Alignment | not modelled | 97.6 | 20 | PDB header: oxidoreductase Chain: B: PDB Molecule: putative pyridoxamine 5'-phosphate oxidase; PDBTitle: crystal structure of putative pyridoxamine 5'-phosphate oxidase2 (np_601736.1) from corynebacterium glutamicum atcc 13032 kitasato at3 2.51 a resolution |
| 37 | c6eciQ | Alignment | not modelled | 97.6 | 21 | PDB header: fad-binding protein Chain: Q: PDB Molecule: pyridoxamine 5'-phosphate oxidase-related, fmn-binding PDBTitle: structure of the fad binding protein msmeg_5243 from mycobacterium2 smegmatis |
| 38 | c5escD | Alignment | not modelled | 97.5 | 17 | PDB header: oxidoreductase Chain: D: PDB Molecule: hupz; PDBTitle: crystal structure of group a streptococcus hupz |
| 39 | c3u0iA | Alignment | not modelled | 97.4 | 19 | PDB header: unknown function Chain: A: PDB Molecule: probable fad-binding, putative uncharacterized protein; PDBTitle: crystal structure of a probable fad-binding, putative uncharacterized2 protein from brucella melitensis |
| 40 | c2q9kA | Alignment | not modelled | 97.4 | 15 | PDB header: oxidoreductase Chain: A: PDB Molecule: uncharacterized protein; PDBTitle: crystal structure of a putative oxidoreductase (exig_1997) from2 exiguobacterium sibiricum 255-15 at 1.59 a resolution |
| 41 | c3cp3A | Alignment | not modelled | 97.3 | 19 | PDB header: structural genomics, unknown function Chain: A: PDB Molecule: uncharacterized protein; PDBTitle: crystal structure of conserved protein of unknown function dip18742 from corynebacterium diphtheriae |
| 42 | c2htdB | Alignment | not modelled | 97.3 | 23 | PDB header: oxidoreductase Chain: B: PDB Molecule: predicted flavin-nucleotide-binding protein from cog3576 PDBTitle: crystal structure of a putative pyridoxamine 5'-phosphate oxidase2 (ldb0262) from lactobacillus delbrueckii subsp. at 1.60 a resolution |
| 43 | c1nrgA | Alignment | not modelled | 97.3 | 16 | PDB header: oxidoreductase Chain: A: PDB Molecule: pyridoxine 5'-phosphate oxidase; PDBTitle: structure and properties of recombinant human pyridoxine-5'-phosphate2 oxidase |
| 44 | d1nrga | Alignment | not modelled | 97.3 | 16 | Fold: Split barrel-like Superfamily: FMN-binding split barrel Family: PNP-oxidase like |
| 45 | d1dnla | Alignment | not modelled | 97.3 | 15 | Fold: Split barrel-like Superfamily: FMN-binding split barrel Family: PNP-oxidase like |
| 46 | c4hmwB | Alignment | not modelled | 97.3 | 11 | PDB header: oxidoreductase Chain: B: PDB Molecule: pyridoxamine 5'-phosphate oxidase; PDBTitle: crystal structure of phzg from burkholderia lata 383 |
| 47 | c3dmbA | Alignment | not modelled | 97.2 | 18 | PDB header: oxidoreductase Chain: A: PDB Molecule: putative general stress protein 26 with a pnp-oxidase like PDBTitle: crystal structure of a putative general stress family protein2 (xcc2264) from xanthomonas campestris pv. campestris at 2.30 a3 resolution |
| 48 | c3u34D | Alignment | not modelled | 97.1 | 19 | PDB header: protein binding Chain: D: PDB Molecule: general stress protein; PDBTitle: crystal structure of the general stress fmn/fad binding protein from2 the phytopathogen xanthomonas citri |
| 49 | c2qeaB | Alignment | not modelled | 96.8 | 21 | PDB header: oxidoreductase Chain: B: PDB Molecule: putative general stress protein 26; PDBTitle: crystal structure of a putative general stress protein 26 (jann_0955)2 from jannaschia sp. ccs1 at 2.46 a resolution |
| 50 | d1ci0a | Alignment | not modelled | 96.6 | 12 | Fold: Split barrel-like Superfamily: FMN-binding split barrel Family: PNP-oxidase like |
| 51 | c6rk0A | Alignment | not modelled | 96.4 | 27 | PDB header: flavoprotein Chain: A: PDB Molecule: uncharacterized protein; PDBTitle: structure of the flavocytochrome anf3 from azotobacter vinelandii |
| 52 | d1xhna1 | Alignment | not modelled | 96.1 | 17 | Fold: Split barrel-like Superfamily: FMN-binding split barrel Family: PNP-oxidase like |

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|----|-------------------------|-----------|--------------|------|----|--|
| 53 | d1flma_ | Alignment | not modelled | 95.8 | 21 | Fold: Split barrel-like Superfamily: FMN-binding split barrel Family: PNP-oxidase like |
| 54 | d2vpaa1 | Alignment | not modelled | 94.3 | 19 | Fold: Split barrel-like Superfamily: FMN-binding split barrel Family: PNP-oxidase like |
| 55 | d2ptfa1 | Alignment | not modelled | 88.1 | 16 | Fold: Split barrel-like Superfamily: FMN-binding split barrel Family: MTH863-like |
| 56 | c2ptfB_ | Alignment | not modelled | 84.9 | 16 | PDB header: structural genomics, unknown function Chain: B: PDB Molecule: uncharacterized protein mth_863; PDBTitle: crystal structure of protein mth_863 from methanobacterium2 thermoautotrophicum bound to fmn |
| 57 | c4n7rD_ | Alignment | not modelled | 84.4 | 12 | PDB header: oxidoreductase/protein binding Chain: D: PDB Molecule: genomic dna, chromosome 3, p1 clone: mxl8; PDBTitle: crystal structure of arabidopsis glutamyl-trna reductase in complex2 with its binding protein |
| 58 | c2ou5B_ | Alignment | not modelled | 79.9 | 12 | PDB header: flavoprotein Chain: B: PDB Molecule: pyridoxamine 5'-phosphate oxidase-related, fmn-binding; PDBTitle: crystal structure of a pyridoxamine 5'-phosphate oxidase-related fmn-2 binding protein (jann_0254) from jannaschia sp. ccs1 at 1.60 a3 resolution |
| 59 | c2o15B_ | Alignment | not modelled | 79.7 | 17 | PDB header: transcription regulator Chain: B: PDB Molecule: pai 2 protein; PDBTitle: crystal structure of a protease synthase and sporulation negative2 regulatory protein pai 2 from bacillus stearothermophilus |
| 60 | c2i51B_ | Alignment | not modelled | 71.4 | 9 | PDB header: flavoprotein Chain: B: PDB Molecule: uncharacterized conserved protein of cog5135; PDBTitle: crystal structure of a pyridoxamine 5'-phosphate oxidase-related, fmn2 binding protein (npun_f5749) from nostoc punctiforme pcc 73102 at3 1.40 a resolution |
| 61 | d2imla1 | Alignment | not modelled | 20.9 | 15 | Fold: Split barrel-like Superfamily: FMN-binding split barrel Family: MTH863-like |
| 62 | c3fgeA_ | Alignment | not modelled | 17.6 | 8 | PDB header: oxidoreductase Chain: A: PDB Molecule: putative flavin reductase with split barrel domain; PDBTitle: crystal structure of putative flavin reductase with split barrel2 domain (yp_750721.1) from shewanella frigidimarina ncimb 400 at 1.743 a resolution |
| 63 | d1kb0a2 | Alignment | not modelled | 13.8 | 27 | Fold: 8-bladed beta-propeller Superfamily: Quinoprotein alcohol dehydrogenase-like Family: Quinoprotein alcohol dehydrogenase-like |
| 64 | c4a2nB_ | Alignment | not modelled | 13.0 | 27 | PDB header: transferase Chain: B: PDB Molecule: isoprenylcysteine carboxyl methyltransferase; PDBTitle: crystal structure of ma-icmt |
| 65 | d1zq1c1 | Alignment | not modelled | 12.3 | 42 | Fold: GatB/YqeY motif Superfamily: GatB/YqeY motif Family: GatB/GatE C-terminal domain-like |
| 66 | d1qrda_ | Alignment | not modelled | 12.0 | 20 | Fold: Flavodoxin-like Superfamily: Flavoproteins Family: Quinone reductase |
| 67 | c4z85A_ | Alignment | not modelled | 11.4 | 19 | PDB header: oxidoreductase Chain: A: PDB Molecule: 2-nitrobenzoate nitroreductase; PDBTitle: crystal structur of pseudomonas fluorescens 2-nitrobenzoate 2-2 nitroreductase nbaa |
| 68 | c3bpbB_ | Alignment | not modelled | 11.2 | 21 | PDB header: oxidoreductase Chain: B: PDB Molecule: nitrilotriacetate monooxygenase component b; PDBTitle: crystal structure of nitrilotriacetate monooxygenase component b from2 bacillus cereus |
| 69 | c4wt5A_ | Alignment | not modelled | 10.7 | 16 | PDB header: chaperone Chain: A: PDB Molecule: rubisco accumulation factor 1, isoform 2; PDBTitle: the c-terminal domain of rubisco accumulation factor 1 from2 arabidopsis thaliana, crystal form ii |
| 70 | c4u65A_ | Alignment | not modelled | 10.5 | 20 | PDB header: transferase/hydrolase Chain: A: PDB Molecule: two component histidine kinase, ggdef domain protein/eal PDBTitle: structure of the periplasmic output domain of the legionella2 pneumophila lapd ortholog cdgs9 in complex with pseudomonas3 fluorescens lapg |
| 71 | d1dxqa_ | Alignment | not modelled | 9.6 | 20 | Fold: Flavodoxin-like Superfamily: Flavoproteins Family: Quinone reductase |
| 72 | c5v7pA_ | Alignment | not modelled | 9.2 | 32 | PDB header: transferase Chain: A: PDB Molecule: protein-s-isoprenylcysteine o-methyltransferase; PDBTitle: atomic structure of the eukaryotic intramembrane ras methyltransferase2 icmt (isoprenylcysteine carboxyl methyltransferase), in complex with3 a monobody |
| 73 | d1dgsa3 | Alignment | not modelled | 9.0 | 14 | Fold: ATP-grasp Superfamily: DNA ligase/mRNA capping enzyme, catalytic domain Family: Adenylation domain of NAD+-dependent DNA ligase |
| 74 | d2nr4a1 | Alignment | not modelled | 8.7 | 21 | Fold: Split barrel-like Superfamily: FMN-binding split barrel Family: MTH863-like |
| 75 | d1d4aa_ | Alignment | not modelled | 8.6 | 20 | Fold: Flavodoxin-like Superfamily: Flavoproteins Family: Quinone reductase |
| 76 | c2dhyA_ | Alignment | not modelled | 8.1 | 24 | PDB header: immune system Chain: A: PDB Molecule: cue domain-containing protein 1; PDBTitle: solution structure of the cue domain in the human cue2 |

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|----|-------------------------|-----------|--------------|-----|----|---|
| | | | | | | domain containing protein 1 (cuedc1) |
| 77 | d1k3ra1 | Alignment | not modelled | 7.1 | 13 | Fold: OB-fold Superfamily: Nucleic acid-binding proteins Family: Hypothetical protein MTH1 (MT0001), insert domain |
| 78 | c2levA | Alignment | not modelled | 6.8 | 24 | PDB header: transcription regulator/dna Chain: A: PDB Molecule: ler; PDBTitle: structure of the dna complex of the c-terminal domain of ler |
| 79 | c6mk1V | Alignment | not modelled | 6.8 | 67 | PDB header: protein fibril Chain: V: PDB Molecule: PDBTitle: cryo-em of self-assembly peptide filament heat_r1 |
| 80 | c2amjD | Alignment | not modelled | 6.7 | 17 | PDB header: oxidoreductase Chain: D: PDB Molecule: modulator of drug activity b; PDBTitle: crystal structure of modulator of drug activity b from escherichia2 coli o157:h7 |
| 81 | c3gr1A | Alignment | not modelled | 5.8 | 18 | PDB header: membrane protein Chain: A: PDB Molecule: protein prgh; PDBTitle: periplasmic domain of the t3ss inner membrane protein prgh from2 s.typhimurium (fragment 170-392) |
| 82 | d3cx5g1 | Alignment | not modelled | 5.7 | 15 | Fold: 14 kDa protein of cytochrome bc1 complex (Ubiquinol-cytochrome c reductase) Superfamily: 14 kDa protein of cytochrome bc1 complex (Ubiquinol-cytochrome c reductase) Family: 14 kDa protein of cytochrome bc1 complex (Ubiquinol-cytochrome c reductase) |
| 83 | c3b5mD | Alignment | not modelled | 5.5 | 22 | PDB header: structural genomics, unknown function Chain: D: PDB Molecule: uncharacterized protein; PDBTitle: crystal structure of conserved uncharacterized protein from2 rhodopirellula baltica |
| 84 | c5jfzB | Alignment | not modelled | 5.2 | 18 | PDB header: transferase Chain: B: PDB Molecule: uncharacterized protein yhfg; PDBTitle: e. coli ecfct in complex with ecfca mutant e28g |
| 85 | c5jfzF | Alignment | not modelled | 5.2 | 18 | PDB header: transferase Chain: F: PDB Molecule: uncharacterized protein yhfg; PDBTitle: e. coli ecfct in complex with ecfca mutant e28g |
| 86 | c1zauA | Alignment | not modelled | 5.2 | 17 | PDB header: ligase Chain: A: PDB Molecule: dna ligase; PDBTitle: adenylation domain of nad+ dependent dna ligase from m.tuberculosis |
| 87 | c1cpbA | Alignment | not modelled | 5.1 | 21 | PDB header: hydrolase (c-terminal peptidase) Chain: A: PDB Molecule: carboxypeptidase b; PDBTitle: structure of carboxypeptidase b at 2.8 angstroms resolution |
| 88 | d1v9pa3 | Alignment | not modelled | 5.0 | 15 | Fold: ATP-grasp Superfamily: DNA ligase/mRNA capping enzyme, catalytic domain Family: Adenylation domain of NAD+-dependent DNA ligase |