

Predicted Toxin (Red Pentagon) Domain ID: D6  
-- RefSeq Protein Description: type II toxin-antitoxin system death-on-curing family toxin  
-- TA08 Annotation: No Hit  
-- NCBI-CDD Annotation: Fic superfamily, Fic  
-- HHpred(Plam) Annotation: Fic ; Fic/DOC family (87.67%)  
-- HHpred(PDB) Annotation: Death on curing protein, Prevent (97.17%)

*Paenibacillus terrae* HPL 003 (TA-Like pair: WP\_014276240.1 & WP\_014276239.1)  
*Antarcticobacter heliithermus* (TA-Like pair: WP\_094037311.1 & WP\_094037310.1)  
*Ochrobactrum anthropi* ATCC 49188 (TA-Like pair: WP\_010294733.1 & WP\_010294743.1)  
*Pseudomonas kirkiae* (TA-Like pair: WP\_131184573.1 & WP\_131184574.1)  
*Paenibacillus xylanivorans* (TA-Like pair: WP\_053779653.1 & WP\_053779654.1)  
*Thermotoga angustius* DSM 12763 (TA-Like pair: WP\_005066625.1 & WP\_005066625.1)  
*Methylocystis parvus* (TA-Like pair: WP\_026016149.1 & WP\_016919313.1)  
*Polioromonas glacialis* (TA-Like pair: WP\_029324963.1 & WP\_029324964.1)  
*Nitratireductor basalis* (TA-Like pair: WP\_036461629.1 & WP\_036461631.1)  
*Leptospira maszelloughii* (TA-Like pair: WP\_039927731.1 & WP\_100720738.1)  
*Sphingobium xenophagum* (TA-Like pair: WP\_130753883.1 & WP\_130753881.1)  
*Leptospira vanthelii* (TA-Like pair: WP\_002978960.1 & WP\_039526206.1)  
*Hydrococcus rivularis* NIES 593 (TA-Like pair: WP\_07358092.1 & WP\_07358090.1)  
*Halothermothrix orenii* H 168 (TA-Like pair: WP\_012634984.1 & WP\_012634983.1)  
*Lamprocystis purpurea* DSM 4197 (TA-Like pair: WP\_020504584.1 & WP\_020504585.1)  
*Lactobacillus parabrevis* (TA-Like pair: WP\_020080181.1 & WP\_02008019.1)  
*Streptococcus equi* subsp. *zooepidemicus* (TA-Like pair: WP\_094379186.1 & WP\_043026593.1)  
*Tetrasporium hominis* (TA-Like pair: WP\_094943294.1 & WP\_094943295.1)  
*Bacillus fortis* (TA-Like pair: WP\_144461307.1 & WP\_144461308.1)  
*Staphylococcus nepalensis* (TA-Like pair: WP\_096811087.1 & WP\_096811086.1)  
*Thiohalobivibrio denitrificans* (TA-Like pair: WP\_072727511.1 & WP\_072727485.1)  
*Desulfotalea conservatrix* Mb1Pa (TA-Like pair: WP\_027360754.1 & WP\_027360753.1)  
*Lactobacillus jensenii* (TA-Like pair: WP\_021351300.1 & WP\_048587979.1)  
*Virgibacillus dokidoniensis* (TA-Like pair: WP\_073013127.1 & WP\_101934192.1)  
*Enterococcus mundtii* (TA-Like pair: WP\_104775664.1 & WP\_195273946.1)  
*Enterococcus devriesei* (TA-Like pair: WP\_071862408.1 & WP\_071862407.1)  
*Deinococcus aerius* (TA-Like pair: WP\_103129312.1 & WP\_103129313.1)  
*Acetivibrio oryzae* (TA-Like pair: WP\_109072865.1 & WP\_149189758.1)  
*Maoricicimonas rarisocia* (TA-Like pair: WP\_145368137.1 & WP\_145368138.1)  
*Virgibacillus profundus* (TA-Like pair: WP\_095655374.1 & WP\_095655373.1)  
*Chlorobaculum limicola* TLS (TA-Like pair: WP\_010522024.1 & WP\_010522025.1)  
*Lactobacillus dongjiensis* (TA-Like pair: WP\_197639700.1 & WP\_171001032.1)  
*Alkalibacterium subspicatum* (TA-Like pair: WP\_091531236.1 & WP\_091531237.1)  
*Streptococcus downei* F628 (TA-Like pair: WP\_115329185.1 & WP\_115329473.1)  
*Lactobacillus sarakii* (TA-Like pair: WP\_070307401.1 & WP\_070307401.1)  
*Romeria aff. gracilis* LEGE 07310 (TA-Like pair: WP\_153008565.1 & WP\_153008568.1)  
*Dactylococcopsis salina* PCC 8305 (TA-Like pair: WP\_015230976.1 & WP\_015230977.1)  
*Bacillus thuringiensis* serovar *kurstaki* str. HD73 (TA-Like pair: WP\_000126403.1 & WP\_000159319.1)  
*Mastigococcus testatum* BC008 (TA-Like pair: WP\_027843590.1 & WP\_027843591.1)  
*Methylobacter luteus* IMV B 3098 (TA-Like pair: WP\_027159917.1 & WP\_196806574.1)  
*Listeria booriae* (TA-Like pair: WP\_185578318.1 & WP\_185427903.1)  
*Deinococcus detailensis* (TA-Like pair: WP\_143722056.1 & WP\_143722055.1)  
*Candidatus Prochlorococcus* sp. R18 (TA-Like pair: WP\_011175372.1 & WP\_052364870.1)  
*Duganella ginsengisoli* (TA-Like pair: WP\_170305480.1 & WP\_155437161.1)  
*Caulobacter flavus* (TA-Like pair: WP\_101713741.1 & WP\_101713742.1)  
*Pseudovibrio antarcticus* (TA-Like pair: WP\_129631618.1 & WP\_129631619.1)  
*Bacillus chaganiensis* DSM 18086 (TA-Like pair: WP\_156897273.1 & WP\_051987954.1)  
*Rhodohalobacter barkolensis* (TA-Like pair: WP\_101074124.1 & WP\_101074123.1)  
*Enterococcus faecalis* (TA-Like pair: WP\_071131472.1 & WP\_071131471.1)  
*Lactobacillus hokkaidonensis* JCM 19461 (TA-Like pair: WP\_041084377.1 & WP\_041084266.1)  
*Crocophaga chrysogaster* CCY010 (TA-Like pair: WP\_008276102.1 & WP\_008276103.1)  
*Prostheobacter vanneervortii* (TA-Like pair: WP\_184339500.1 & WP\_184339499.1)  
*Peribacillus simplex* (TA-Like pair: WP\_048893281.1 & WP\_148359105.1)  
*Nitrospira moscovensis* (TA-Like pair: WP\_055378685.1 & WP\_055378686.1)  
*Candidatus Kueneria stuttgartiensis* (TA-Like pair: WP\_099323892.1 & WP\_197705310.1)  
*Alkalihalobacillus clausii* (TA-Like pair: WP\_011245871.1 & WP\_094423555.1)  
*Lactobacillus fujinensis* (TA-Like pair: WP\_125685509.1 & WP\_125685510.1)  
*Alkalihalobacillus shahensis* (TA-Like pair: WP\_180316732.1 & WP\_059106044.1)  
*Methylobacterium variable* (TA-Like pair: WP\_157080751.1 & WP\_048446388.1)  
*Tetragenococcus halophilus* NBRC 12172 (TA-Like pair: WP\_014124311.1 & WP\_014124312.1)  
*Granulicella arctica* (TA-Like pair: WP\_193480014.1 & WP\_193480012.1)  
*Desmospora actina* DSM 45169 (TA-Like pair: WP\_107728109.1 & WP\_107728110.1)  
*Desulfatigibbsia anilini* DSM 4660 (TA-Like pair: WP\_028321657.1 & WP\_028321656.1)  
*Thiobacillus thioautotrophicus* (TA-Like pair: WP\_132978614.1 & WP\_165903478.1)  
*Sporobolobacillus pediciformis* (TA-Like pair: WP\_10048477.1 & WP\_100483651.1)  
*Rhodovulum adriaticum* (TA-Like pair: WP\_132602420.1 & WP\_132602423.1)  
*Leptospira inadai* serovar *Lyme* (TA-Like pair: WP\_010411608.1 & WP\_010411604.1)  
*Sulfurifurax variabilis* (TA-Like pair: WP\_189923967.1 & WP\_096459308.1)  
*Cyanobacterium agnoscens* PCC 10925 (TA-Like pair: WP\_015218807.1 & WP\_015218808.1)  
*Rhodococcus antarcticus* (TA-Like pair: WP\_075586465.1 & WP\_083633883.1)  
*Deinococcus missansensis* DSM 22328 (TA-Like pair: WP\_034342550.1 & WP\_034342548.1)  
*Enterococcus raffinosus* (TA-Like pair: WP\_035015993.1 & WP\_010744083.1)  
*Paenibacillus antarcticus* (TA-Like pair: WP\_134210560.1 & WP\_134210559.1)  
*Trichococcus patagoniensis* (TA-Like pair: WP\_108031514.1 & WP\_108031515.1)  
*Trepionema caldarium* DSM 7334 (TA-Like pair: WP\_013967826.1 & WP\_156789701.1)  
*Oscandobacillus sojas* (TA-Like pair: WP\_077603111.1 & WP\_077603110.1)  
*Fodinicurvata fengchengensis* DSM 21150 (TA-Like pair: WP\_026987422.1 & WP\_051609143.1)  
*Listeria valentina* (TA-Like pair: WP\_167629427.1 & WP\_167629425.1)  
*Silvibacterium bohemium* (TA-Like pair: WP\_050059498.1 & WP\_050059499.1)  
*Lactobacillus hominis* (TA-Like pair: WP\_006469953.1 & WP\_006469952.1)  
*Deinobacterium chartae* (TA-Like pair: WP\_163988741.1 & WP\_163988772.1)  
*Granulicella sibirica* (TA-Like pair: WP\_128911191.1 & WP\_128912898.1)  
*Gloeobacter violaceus* PCC 7421 (TA-Like pair: WP\_011142728.1 & WP\_164923089.1)  
*Sphaerobacter thermophilus* DSM 20745 (TA-Like pair: WP\_012872992.1 & WP\_012872991.1)  
*Turneriella parva* DSM 21527 (TA-Like pair: WP\_014802163.1 & WP\_014802164.1)  
*Thermodesulfobacterium autotrophicum* (TA-Like pair: WP\_123930059.1 & WP\_123930056.1)  
*Rubritalea profunda* (TA-Like pair: WP\_105044734.1 & WP\_105041739.1)  
*Leptophrys cf. ectocarpus* LEGE 11479 (TA-Like pair: WP\_193993036.1 & WP\_193993037.1)  
*Marinimicrobium halotolerans* (TA-Like pair: WP\_091838187.1 & WP\_091838188.1)  
*Leptonema illini* DSM 21528 (TA-Like pair: WP\_002774710.1 & WP\_002774705.1)  
*Salinococcus alkaliphilus* DSM 16010 (TA-Like pair: WP\_084669856.1 & WP\_07278126.1)  
*Pseudovibrio denitrificans* (TA-Like pair: WP\_057658207.1 & WP\_057658206.1)  
*Weissella cryptococci* (TA-Like pair: WP\_133364144.1 & WP\_133364145.1)  
*Lactobacillus songbiensis* (TA-Like pair: WP\_137635911.1 & WP\_137635910.1)  
*Pseudomonas lemoignei* (TA-Like pair: WP\_132256407.1 & WP\_132256409.1)  
*Methylocystis parvus* (TA-Like pair: WP\_016918711.1 & WP\_016918710.1)  
*Roseospora navamensis* (TA-Like pair: WP\_153346819.1 & WP\_153346817.1)  
*Desulfococcus indanensis* (TA-Like pair: WP\_049673590.1 & WP\_049673589.1)  
*Thermodesulfatator attenuatus* DSM 21156 (TA-Like pair: WP\_022554004.1 & WP\_022554003.1)  
*Chitinomonas korensis* DSM 17726 (TA-Like pair: WP\_028444578.1 & WP\_034605873.1)  
*Rubrobacter aplysinae* (TA-Like pair: WP\_047865028.1 & WP\_047865029.1)  
*Woodholea maritima* DSM 17123 (TA-Like pair: WP\_019862238.1 & WP\_156823518.1)  
*Anaerospira hongkongensis* (TA-Like pair: WP\_132080030.1 & WP\_132080033.1)  
*Vagococcus fluvialis* (TA-Like pair: WP\_088952600.1 & WP\_167800662.1)  
*Planctomicrobium piriforme* (TA-Like pair: WP\_092057259.1 & WP\_139228711.1)  
*Leptospira ananosa* HTCC2155 (TA-Like pair: WP\_040914571.1 & WP\_007278416.1)  
*Levinella saccharolytica* (TA-Like pair: WP\_065417122.1 & WP\_065417123.1)  
*Alloycobacillus ferroxydans* (TA-Like pair: WP\_054970382.1 & WP\_054970381.1)  
*Noviheliospirillum denitrificans* (TA-Like pair: WP\_088707571.1 & WP\_088707570.1)  
*Aquimona vorai* (TA-Like pair: WP\_091237425.1 & WP\_091237423.1)  
*Nitrospirillum iridis* (TA-Like pair: WP\_184802258.1 & WP\_184802284.1)  
*Bacillus mangrovi* (TA-Like pair: WP\_155127631.1 & WP\_15512801.1)  
*Lactobacillus camelliae* DSM 22697 - JCM 13995 (TA-Like pair: WP\_054665021.1 & WP\_054665024.1)  
*Atoposipes sulcohalophilus* DSM 16692 (TA-Like pair: WP\_073294936.1 & WP\_073294938.1)  
*Gloeocapsopsis crepidum* LEGE 06123 (TA-Like pair: WP\_193934468.1 & WP\_193934469.1)  
*Kilonella spongiae* (TA-Like pair: WP\_047762922.1 & WP\_047762921.1)  
*Lactobacillus intestinalis* DSM 8629 (TA-Like pair: WP\_057809635.1 & WP\_0504046233.1)  
*Staphylococcus phage SP101* like (TA-Like pair: WP\_003269793.1 & WP\_003269792.1)  
*Shimazuelia kribbensis* DSM 45090 (TA-Like pair: WP\_028777744.1 & WP\_028777743.1)  
*Minwua thermotolerans* (TA-Like pair: WP\_109793398.1 & WP\_109793397.1)  
*Staphylospora marina* (TA-Like pair: WP\_124727354.1 & WP\_124727353.1)  
*Magnetisphaera australis* T1 (TA-Like pair: WP\_065440743.1 & WP\_156809265.1)  
*Vagococcus elongatus* (TA-Like pair: WP\_126809764.1 & WP\_126809763.1)  
*Alkalicoccus brevis* (TA-Like pair: WP\_114965148.1 & WP\_114965147.1)  
*Sedimentispirillum smaydaensis* DSM 11263 (TA-Like pair: WP\_013256586.1 & WP\_171814793.1)  
*Desulfobacter vibrioformis* DSM 8776 (TA-Like pair: WP\_035242283.1 & WP\_035242286.1)  
*Piscirickettsia litorea* (TA-Like pair: WP\_069314058.1 & WP\_158006088.1)

Predicted Antitoxin (Blue Pentagon) Domain ID: D19  
-- RefSeq Protein Description: AbrB/MazE/SpoVT family DNA-binding domain-containing protein  
-- TA08 Annotation: No Hit  
-- NCBI-CDD Annotation: MazE antitoxin superfamily  
-- HHpred(Plam) Annotation: PrfE antitoxin ; prfE antitoxin for toxin YhaV\_toxin (88.82%)  
-- HHpred(PDB) Annotation: Putative uncharacterized protein (92.37%)

