

***Francisella tularensis* subsp. *novicida*  
“Two-Allele” Transposon Mutant Library,  
Plate 21 (tnfn1\_pw060419p01)**

**Catalog No. NR-51303**

**For research use only. Not for human use.**

**Contributor:**

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**Manufacturer:**

BEI Resources

**Product Description:**

Production in the 96-well format has increased risk of cross-contamination between adjacent wells. Individual clones should be purified (e.g. single colony isolation and purification using good microbiological practices) and sequence-verified prior to use. BEI Resources does not confirm or validate individual mutants provided by the contributor.

A comprehensive 16,508-member transposon mutant library<sup>1</sup> of sequence-defined transposon insertion mutants of *Francisella tularensis* subsp. *novicida*, strain U112 was prepared to allow the systematic identification of virulence determinants and other factors associated with *Francisella* pathogenesis. Genes refractory to insertional inactivation helped define the genes essential for viability of the organism.

To facilitate genome-scale screening using the mutant collection, a “two-allele” single-colony purified sublibrary, made up of approximately two purified mutants per gene, was assembled.

NR-51303 represents plate 21 (tnfn1\_pw060419p01) of the “two-allele” 3,050-member sublibrary. Detailed information for each mutant is shown in Tables 1 to 3.

*Francisella tularensis* subsp. *novicida*, strain U112 is excluded from Select Agent status. Please see [CDC Select Agent Program, Notification of Exclusion](#).

**Material Provided:**

Each inoculated well of the 96-well plate contains approximately 50 µL of culture in Tryptic Soy broth containing 0.1% L-cysteine and 10 µg/mL kanamycin supplemented with 5% glycerol.

**Packaging/Storage:**

NR-51303 was packaged aseptically in a 96-well plate. The product is provided frozen and should be stored at -80°C or colder immediately upon arrival. For long-term storage, the vapor phase of a liquid nitrogen freezer is recommended. Freeze-thaw cycles should be avoided.

**Growth Conditions:**

Media:

Tryptic Soy broth or agar containing 0.1% L-cysteine and 10 µg/mL kanamycin

Incubation:

Temperature: 37°C

Atmosphere: Aerobic with 5% CO<sub>2</sub>

Propagation:

1. Scrape top of frozen well with a pipette tip and streak onto agar plate.
2. Incubate the plates at 37°C for 1 day.

**Citation:**

Acknowledgment for publications should read “The following reagent was obtained through BEI Resources, NIAID, NIH: *Francisella tularensis* subsp. *novicida* “Two-Allele” Transposon Mutant Library, Plate 21 (tnfn1\_pw060419p01), NR-51303.”

**Biosafety Level: 2**

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. [Biosafety in Microbiological and Biomedical Laboratories](#). 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see [www.cdc.gov/biosafety/publications/bmb15/index.htm](http://www.cdc.gov/biosafety/publications/bmb15/index.htm).

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**References:**

- Gallagher, L. A., et al. "A Comprehensive Transposon Mutant Library of *Francisella novicida*, A Bioweapon Surrogate." *Proc. Natl. Acad. Sci. USA* 104 (2007): 1009-1014. PubMed: 17215359.

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**Table 1: Plate 21 (tnfn1\_pw060419p01) – Transposon Type and Mutated Gene<sup>1</sup>**

| Well Position | Strain Name           | Transposon Type | Gene  | Description   | Function Class   |
|---------------|-----------------------|-----------------|-------|---|--|
| A01           | tnfn1_pw060419p01q101 | T18             |       |   |  |
| A02           | tnfn1_pw060419p01q109 | T18             | recF  | RecFOR complex, RecF component  | DNA replication, recombination, modification and repair - restriction/modification |
| A03           | tnfn1_pw060419p01q117 | T18             | -     | Hypothetical protein  | Hypothetical - novel   |
| A04           | tnfn1_pw060419p01q125 | T20             | -     | Protein of unknown function   | Unknown function - conserved   |
| A05           | tnfn1_pw060419p01q133 | T20             | -     | Nicotinamide ribonucleoside (NR) uptake permease (PnuC) family protein            | Transport  |
| A06           | tnfn1_pw060419p01q141 | T20             | iglB  | Intracellular growth locus protein B  | Unknown function - conserved   |
| A07           | tnfn1_pw060419p01q149 | T20             | -     | Conserved protein of unknown function   | Unknown function - conserved   |
| A08           | tnfn1_pw060419p01q157 | <KAN-2>         | -     | Protein of unknown function   | Unknown function - novel   |
| A09           | tnfn1_pw060419p01q165 | <KAN-2>         | -     | Manganese/Zinc/Iron chelate uptake transporter family protein                     | Transport  |
| A10           | tnfn1_pw060419p01q173 | T20             | -     | Drug:H+ antiporter-1 (DHA1) family protein  | Transport - drugs / antibacterial compounds  |
| A11           | tnfn1_pw060419p01q181 | T20             | mreA  | FAD binding family protein  | Energy metabolism  |
| A12           | tnfn1_pw060419p01q189 | T20             | -     | Major facilitator superfamily (MFS) transport protein                             | Transport  |
| B01           | tnfn1_pw060419p01q102 | <KAN-2>         | wbtP  | Galactosyl transferase  | Cell wall / LPS / capsule  |
| B02           | tnfn1_pw060419p01q110 | T18             | -     | Membrane fusion protein   | Motility, attachment and secretion structure                                       |
| B03           | tnfn1_pw060419p01q118 | T18             | -     | Conserved hypothetical protein  | Hypothetical - conserved   |
| B04           | tnfn1_pw060419p01q126 | T20             | cyoA  | Cytochrome bo terminal oxidase subunit II   | Energy metabolism  |
| B05           | tnfn1_pw060419p01q134 | T20             | -     | Protein of unknown function   | Unknown function - novel   |
| B06           | tnfn1_pw060419p01q142 | T20             | galP2 | Galactose-proton symporter, major facilitator superfamily (MFS) transport protein | Transport - carbohydrates (sugars, polysaccharides)                                |
| B07           | tnfn1_pw060419p01q150 | T20             | kdpD  | Two component regulator, sensor histidine kinase kdpD                             | Signal transduction and regulation   |
| B08           | tnfn1_pw060419p01q158 | T18             | pal   | Peptidoglycan-associated lipoprotein, OmpA family                                 | Transport - drugs / antibacterial compounds  |
| B09           | tnfn1_pw060419p01q166 | T18             | -     | Hypothetical protein  | Hypothetical - novel   |
| B10           | tnfn1_pw060419p01q174 | T20             | -     | VacJ like lipoprotein   | Cell wall / LPS / capsule  |
| B11           | tnfn1_pw060419p01q182 | T20             | cysN  | Sulfate adenylate transferase, subunit 1  | Other metabolism - degradation, utilization, assimilation                          |
| B12           | tnfn1_pw060419p01q190 | T20             | purF  | Amidophosphoribosyltransferase  | Nucleotides and nucleosides metabolism   |
| C01           | tnfn1_pw060419p01q103 | T18             | secG  | Preprotein translocase, subunit G, membrane protein                               | Motility, attachment and secretion structure                                       |
| C02           | tnfn1_pw060419p01q111 | T18             | -     | Conserved hypothetical protein  | Hypothetical - conserved   |
| C03           | tnfn1_pw060419p01q119 | T18             | -     | Protein of unknown function   | Unknown function - novel   |
| C04           | tnfn1_pw060419p01q127 | T20             | -     | Pyridoxine/pyridoxal 5-phosphate biosynthesis protein                             | Cofactors, prosthetic groups, electron Carriers metabolism                         |
| C05           | tnfn1_pw060419p01q135 | T20             | -     | Magnesium chelatase   | Cofactors, prosthetic groups, electron Carriers metabolism                         |
| C06           | tnfn1_pw060419p01q143 | T20             | -     | Conserved protein of unknown function   | Unknown function - conserved   |
| C07           | tnfn1_pw060419p01q151 | T20             | -     | Serine permease   | Transport - amino-acid   |
| C08           | tnfn1_pw060419p01q159 | T18             | -     | Beta-fructofuranosidase   | carbohydrate metabolism - degradation, Utilization, assimilation                   |
| C09           | tnfn1_pw060419p01q167 | T18             | -     | Hypothetical protein  | Hypothetical - novel   |
| C10           | tnfn1_pw060419p01q175 | T20             | -     | ABC transporter, ATP-binding protein  | Transport  |
| C11           | tnfn1_pw060419p01q183 | T20             | acs   | Acyl-coenzyme A synthetase/AMP-(fatty) acid ligases                               | Other metabolism - degradation, utilization, assimilation                          |
| C12           | tnfn1_pw060419p01q191 | T20             | gloB  | Hydroxyacylglutathione hydrolase  | Other metabolism - degradation, utilization, assimilation                          |
| D01           | tnfn1_pw060419p01q104 | T20             | -     | Amino acid-polyamine-organocation family protein                                  | Transport - amino-acid   |
| D02           | tnfn1_pw060419p01q112 | T18             | kdpE  | Two-component response regulator  | Signal transduction and regulation   |
| D03           | tnfn1_pw060419p01q120 | T18             | -     | Prophage maintenance system killer protein (DOC)                                  | Mobile and extrachromosomal element functions - phage or plasmid related proteins  |
| D04           | tnfn1_pw060419p01q128 | T20             | lysA  | Diaminopimelate decarboxylase   | Amino acid metabolism - biosynthesis   |
| D05           | tnfn1_pw060419p01q136 | T20             | gidB  | Glucose-inhibited cell division protein   | Cell wall / LPS / capsule  |
| D06           | tnfn1_pw060419p01q144 | T20             | -     | Hypothetical membrane protein   | Hypothetical - novel   |
| D07           | tnfn1_pw060419p01q152 | T20             | -     | Arsenite-antimonite (ArsB) efflux family protein                                  | Transport  |

| Well Position | Strain Name           | Transposon Type | Gene  | Description   | Function Class   |
|---------------|-----------------------|-----------------|-------|---|--|
| D08           | tnfn1_pw060419p01q160 | T18             | -     | Conserved protein of unknown function                                       | Unknown function - conserved   |
| D09           | tnfn1_pw060419p01q168 | T18             | cdd   | Cytidine deaminase  | Other metabolism - degradation, utilization, assimilation                            |
| D10           | tnfn1_pw060419p01q176 | T20             | -     | Conserved protein of unknown function                                       | Unknown function - conserved   |
| D11           | tnfn1_pw060419p01q184 | T20             | -     | Conserved protein of unknown function                                       | Unknown function - conserved   |
| D12           | tnfn1_pw060419p01q192 | T20             | -     | Conserved protein of unknown function                                       | Unknown function - conserved   |
| E01           | tnfn1_pw060419p01q105 | T18             | -     | Hypothetical protein  | Hypothetical - conserved   |
| E02           | tnfn1_pw060419p01q113 | T18             |       |   |  |
| E03           | tnfn1_pw060419p01q121 | T18             | yqhD  | Fe-dependent alcohol dehydrogenase  | Energy metabolism  |
| E04           | tnfn1_pw060419p01q129 | T20             | cydB  | Cytochrome bd-I terminal oxidase subunit II                                 | Energy metabolism  |
| E05           | tnfn1_pw060419p01q137 | T20             | -     | Protein of unknown function   | Unknown function - novel   |
| E06           | tnfn1_pw060419p01q145 | T20             | -     | Hypothetical protein  | Hypothetical - novel   |
| E07           | tnfn1_pw060419p01q153 | T20             | -     | Hypothetical protein  | Hypothetical - novel   |
| E08           | tnfn1_pw060419p01q161 | T18             | -     | Hypothetical protein  | Hypothetical - novel   |
| E09           | tnfn1_pw060419p01q169 | T20             | -     | tRNA-methyltransferase MiaB protein   | Translation, ribosomal structure and biogenesis                                      |
| E10           | tnfn1_pw060419p01q177 | T20             | perM  | PerM family protein   | Transport  |
| E11           | tnfn1_pw060419p01q185 | T20             | -     | Conserved protein of unknown function                                       | Unknown function - conserved   |
| E12           | tnfn1_pw060419p01q193 | T20             | -     | Hypothetical membrane protein   | Hypothetical - novel   |
| F01           | tnfn1_pw060419p01q106 | T18             | ribH  | Riboflavin synthase beta-chain  | Cofactors, prosthetic groups, electron carriers metabolism                           |
| F02           | tnfn1_pw060419p01q114 | T18             | -     | Conserved hypothetical protein  | Hypothetical - conserved   |
| F03           | tnfn1_pw060419p01q122 | T18             | trpE  | Anthranilate synthase component I   | Amino acid metabolism - biosynthesis   |
| F04           | tnfn1_pw060419p01q130 | T20             | -     | Hypothetical membrane protein   | Hypothetical - novel   |
| F05           | tnfn1_pw060419p01q138 | T20             | cphB  | Cyanophycinase  | Post-translational modification, protein turnover, chaperones - protein modification |
| F06           | tnfn1_pw060419p01q146 | T20             | -     | Transcriptional regulator, LysR family                                      | Signal transduction and regulation   |
| F07           | tnfn1_pw060419p01q154 | T20             |       |   |  |
| F08           | tnfn1_pw060419p01q162 | <KAN-2>         | grpE  | Chaperone GrpE (heat shock protein). Hsp70/Hsc70 protein regulator activity | Post-translational modification, protein turnover, chaperones                        |
| F09           | tnfn1_pw060419p01q170 | T20             | -     | Transporter-associated protein, HlyC/CorC family                            | Transport  |
| F10           | tnfn1_pw060419p01q178 | T20             | relA  | GDP pyrophosphokinase/GTP pyrophosphokinase                                 | Other metabolism - biosynthesis  |
| F11           | tnfn1_pw060419p01q186 | T20             | -     | ROK family protein  | Putative enzymes   |
| F12           | tnfn1_pw060419p01q194 | T20             | -     | Metabolite:H+ symporter (MHS) family protein                                | Transport  |
| G01           | tnfn1_pw060419p01q107 | T18             | -     | Flavidoxin, related to tryptophan repressor binding protein                 | Putative enzymes   |
| G02           | tnfn1_pw060419p01q115 | T18             | -     | NADPH-dependent FMN reductase   | Other metabolism - degradation, utilization, assimilation                            |
| G03           | tnfn1_pw060419p01q123 | T20             | -     | Glutamate:GABA antiporter (APC family) protein                              | Transport - amino-acid   |
| G04           | tnfn1_pw060419p01q131 | T20             | -     | Metabolite:H+ symporter (MHS) family protein                                | Transport  |
| G05           | tnfn1_pw060419p01q139 | T20             | -     | Kinase-like protein   | Putative enzymes   |
| G06           | tnfn1_pw060419p01q147 | T20             | -     | Conserved hypothetical protein  | Hypothetical - conserved   |
| G07           | tnfn1_pw060419p01q155 | T20             | -     | Protein of unknown function   | Unknown function - novel   |
| G08           | tnfn1_pw060419p01q163 | T18             | appC  | Cytochrome bd-II terminal oxidase subunit I                                 | Energy metabolism  |
| G09           | tnfn1_pw060419p01q171 | T20             | -     | Protein of unknown function   | Unknown function - novel   |
| G10           | tnfn1_pw060419p01q179 | T20             | -     | Hypothetical protein  | Hypothetical - novel   |
| G11           | tnfn1_pw060419p01q187 | T20             | -     | Glycosyl transferase, group 2   | Cell wall / LPS / capsule  |
| G12           | tnfn1_pw060419p01q195 | T20             | -     | Disulfide bond formation protein DsbB family                                | Post-translational modification, protein turnover, chaperones - protein modification |
| H01           | tnfn1_pw060419p01q108 | T18             | -     | RimI-like acetyltransferase   | Putative enzymes   |
| H02           | tnfn1_pw060419p01q116 | T18             | -     | Hypothetical protein  | Hypothetical - novel   |
| H03           | tnfn1_pw060419p01q124 | T20             | dnaK  | Chaperone, heat shock protein, HSP 70 family                                | Post-translational modification, protein turnover, chaperones                        |
| H04           | tnfn1_pw060419p01q132 | T20             | -     | Conserved hypothetical membrane protein                                     | Hypothetical - conserved   |
| H05           | tnfn1_pw060419p01q140 | T20             | -     | Conserved hypothetical protein  | Hypothetical - conserved   |
| H06           | tnfn1_pw060419p01q148 | T20             |       |   |  |
| H07           | tnfn1_pw060419p01q156 | T20             | -     | Hypothetical protein  | Hypothetical - novel   |
| H08           | tnfn1_pw060419p01q164 | T18             | -     | Conserved protein of unknown function                                       | Unknown function - conserved   |
| H09           | tnfn1_pw060419p01q172 | T20             | -     | Conserved protein of unknown function                                       | Unknown function - conserved   |
| H10           | tnfn1_pw060419p01q180 | T20             | ostA2 | Organic solvent tolerance protein OstA                                      | Cell wall / LPS / capsule  |
| H11           | tnfn1_pw060419p01q188 | T20             | -     | Protein of unknown function   | Unknown function - novel   |
| H12           | tnfn1_pw060419p01q196 | T20             | -     | Type IV pili, pilus assembly protein  | Motility, attachment and secretion structure   |

<sup>1</sup>All information in this table was provided by the depositor at the time of deposition.

Table 2: Plate 21 (tnfn1\_pw060419p01) – Sequencing and Insert Location<sup>1</sup>

| Well Position | Strain Name           | Sequencing Confirmation <sup>2</sup> | Effective Genome Position of Insertion <sup>3</sup> | Locus Tag  | ORF Left End | ORF Right End | Direction of ORF <sup>4</sup> | Length of ORF (codons) | Effective Position of Insertion in ORF <sup>5</sup> |
|---------------|-----------------------|--------------------------------------|---|------------|--------------|---------------|-------------------------------|------------------------|---|
| A01           | tnfn1_pw060419p01q101 | C                                    | 818486  | intergenic |              |               |                               |                        |   |
| B01           | tnfn1_pw060419p01q102 | C                                    | 1509510   | FTN_1429   | 1509260      | 1509886       | R                             | 209                    | 377(627)  |
| C01           | tnfn1_pw060419p01q103 | C                                    | 1741101   | FTN_1630   | 1740964      | 1741314       | R                             | 117                    | 214(351)  |
| D01           | tnfn1_pw060419p01q104 | C                                    | 1620558   | FTN_1523   | 1620541      | 1621251       | F                             | 237                    | 18(711)   |
| E01           | tnfn1_pw060419p01q105 | C                                    | 663547  | FTN_0630   | 663345       | 663686        | F                             | 114                    | 203(342)  |
| F01           | tnfn1_pw060419p01q106 | C                                    | 122684  | FTN_0111   | 122336       | 122776        | R                             | 147                    | 93(441)   |
| G01           | tnfn1_pw060419p01q107 | C                                    | 1353092   | FTN_1280   | 1352702      | 1353265       | R                             | 188                    | 174(564)  |
| H01           | tnfn1_pw060419p01q108 | C                                    | 166396  | FTN_0153   | 166021       | 166443        | R                             | 141                    | 48(423)   |
| A02           | tnfn1_pw060419p01q109 | C                                    | 786819  | FTN_0734   | 786285       | 787331        | R                             | 349                    | 513(1047)   |
| B02           | tnfn1_pw060419p01q110 | C                                    | 774284  | FTN_0718   | 773937       | 774791        | R                             | 285                    | 508(855)  |
| C02           | tnfn1_pw060419p01q111 | C                                    | 911875  | FTN_0857   | 911588       | 912034        | F                             | 149                    | 288(447)  |
| D02           | tnfn1_pw060419p01q112 | C                                    | 1838394   | FTN_1714   | 1837876      | 1838559       | R                             | 228                    | 166(684)  |
| E02           | tnfn1_pw060419p01q113 | C                                    | 1000198   | intergenic |              |               |                               |                        |   |
| F02           | tnfn1_pw060419p01q114 | C                                    | 570667  | FTN_0544   | 570050       | 570853        | R                             | 268                    | 187(804)  |
| G02           | tnfn1_pw060419p01q115 | C                                    | 475383  | FTN_0471   | 475227       | 475760        | R                             | 178                    | 378(534)  |
| H02           | tnfn1_pw060419p01q116 | C                                    | 1636141   | FTN_1537   | 1635781      | 1636650       | R                             | 290                    | 510(870)  |
| A03           | tnfn1_pw060419p01q117 | C                                    | 192450  | FTN_0175   | 191251       | 192873        | F                             | 541                    | 1200(1623)  |
| B03           | tnfn1_pw060419p01q118 | C                                    | 1295182   | FTN_1224   | 1294574      | 1295269       | R                             | 232                    | 88(696)   |
| C03           | tnfn1_pw060419p01q119 | C                                    | 1462661   | FTN_1382   | 1462421      | 1462831       | R                             | 137                    | 171(411)  |
| D03           | tnfn1_pw060419p01q120 | C                                    | 1580633   | FTN_1488   | 1579953      | 1580906       | R                             | 318                    | 274(954)  |
| E03           | tnfn1_pw060419p01q121 | C                                    | 1045208   | FTN_0989   | 1044415      | 1045569       | R                             | 385                    | 362(1155)   |
| F03           | tnfn1_pw060419p01q122 | C                                    | 1906506   | FTN_1778   | 1905885      | 1907426       | R                             | 514                    | 921(1542)   |
| G03           | tnfn1_pw060419p01q123 | C                                    | 1625884   | FTN_1529   | 1625383      | 1626783       | R                             | 467                    | 900(1401)   |
| H03           | tnfn1_pw060419p01q124 | C                                    | 1357356   | FTN_1284   | 1356205      | 1358130       | R                             | 642                    | 775(1926)   |
| A04           | tnfn1_pw060419p01q125 | C                                    | 1389010   | FTN_1316   | 1388629      | 1389249       | F                             | 207                    | 382(621)  |
| B04           | tnfn1_pw060419p01q126 | U                                    | 217222  | FTN_0195   | 216593       | 217492        | F                             | 300                    | 630(900)  |
| C04           | tnfn1_pw060419p01q127 | U                                    | 634500  | FTN_0601   | 634045       | 634905        | F                             | 287                    | 456(861)  |
| D04           | tnfn1_pw060419p01q128 | C                                    | 1627946   | FTN_1530   | 1626798      | 1627979       | R                             | 394                    | 34(1182)  |
| E04           | tnfn1_pw060419p01q129 | C                                    | 210479  | FTN_0192   | 209805       | 210995        | R                             | 397                    | 517(1191)   |
| F04           | tnfn1_pw060419p01q130 | U                                    | 1504595   | FTN_1424   | 1503994      | 1505283       | R                             | 430                    | 689(1290)   |
| G04           | tnfn1_pw060419p01q131 | C                                    | 1883819   | FTN_1755   | 1883615      | 1884871       | F                             | 419                    | 205(1257)   |
| H04           | tnfn1_pw060419p01q132 | C                                    | 1015077   | FTN_0960   | 1014799      | 1015527       | R                             | 243                    | 451(729)  |
| A05           | tnfn1_pw060419p01q133 | C                                    | 1074628   | FTN_1014   | 1074014      | 1074643       | R                             | 210                    | 16(630)   |
| B05           | tnfn1_pw060419p01q134 | U                                    | 92080   | FTN_0081   | 91627        | 92358         | R                             | 244                    | 279(732)  |
| C05           | tnfn1_pw060419p01q135 | C                                    | 1779969   | FTN_1665   | 1778927      | 1780432       | R                             | 502                    | 464(1506)   |
| D05           | tnfn1_pw060419p01q136 | U                                    | 109241  | FTN_0098   | 109204       | 109818        | F                             | 205                    | 38(615)   |
| E05           | tnfn1_pw060419p01q137 | C                                    | 798012  | FTN_0744   | 797981       | 798376        | F                             | 132                    | 32(396)   |
| F05           | tnfn1_pw060419p01q138 | C                                    | 1279202   | FTN_1209   | 1278824      | 1279639       | R                             | 272                    | 438(816)  |
| G05           | tnfn1_pw060419p01q139 | C                                    | 893451  | FTN_0836   | 893030       | 893530        | R                             | 167                    | 80(501)   |
| H05           | tnfn1_pw060419p01q140 | C                                    | 837406  | FTN_0779   | 836764       | 838143        | F                             | 460                    | 643(1380)   |
| A06           | tnfn1_pw060419p01q141 | C                                    | 1398665   | FTN_1323   | 1397638      | 1399155       | R                             | 506                    | 491(1518)   |
| B06           | tnfn1_pw060419p01q142 | U                                    | 732726  | FTN_0688   | 731758       | 733149        | F                             | 464                    | 969(1392)   |
| C06           | tnfn1_pw060419p01q143 | C                                    | 1414939   | FTN_1334   | 1414639      | 1415139       | F                             | 167                    | 301(501)  |
| D06           | tnfn1_pw060419p01q144 | C                                    | 319606  | FTN_0309   | 318501       | 320303        | F                             | 601                    | 1106(1803)  |
| E06           | tnfn1_pw060419p01q145 | C                                    | 371994  | FTN_0368   | 371729       | 372250        | F                             | 174                    | 266(522)  |
| F06           | tnfn1_pw060419p01q146 | C                                    | 105515  | FTN_0094   | 105129       | 106073        | R                             | 315                    | 559(945)  |
| G06           | tnfn1_pw060419p01q147 | C                                    | 1902009   | FTN_1771   | 1901829      | 1902239       | R                             | 137                    | 231(411)  |
| H06           | tnfn1_pw060419p01q148 | U                                    | 171109  | intergenic |              |               |                               |                        |   |
| A07           | tnfn1_pw060419p01q149 | C                                    | 1631330   | FTN_1533   | 1630614      | 1631801       | F                             | 396                    | 717(1188)   |
| B07           | tnfn1_pw060419p01q150 | U                                    | 1839738   | FTN_1715   | 1838604      | 1841282       | R                             | 893                    | 1545(2679)  |
| C07           | tnfn1_pw060419p01q151 | C                                    | 193720  | FTN_0176   | 193022       | 194287        | F                             | 422                    | 699(1266)   |
| D07           | tnfn1_pw060419p01q152 | C                                    | 384242  | FTN_0382   | 383357       | 384592        | F                             | 412                    | 886(1236)   |
| E07           | tnfn1_pw060419p01q153 | C                                    | 997781  | FTN_0936   | 997186       | 998415        | F                             | 410                    | 596(1230)   |
| F07           | tnfn1_pw060419p01q154 | C                                    | 323964  | intergenic |              |               |                               |                        |   |
| G07           | tnfn1_pw060419p01q155 | C                                    | 1613008   | FTN_1517   | 1612827      | 1613456       | F                             | 210                    | 182(630)  |
| H07           | tnfn1_pw060419p01q156 | C                                    | 1457836   | FTN_1378   | 1457390      | 1457926       | F                             | 179                    | 447(537)  |
| A08           | tnfn1_pw060419p01q157 | C                                    | 681795  | FTN_0643   | 681664       | 682170        | F                             | 169                    | 132(507)  |
| B08           | tnfn1_pw060419p01q158 | C                                    | 360297  | FTN_0357   | 360228       | 360848        | F                             | 207                    | 70(621)   |
| C08           | tnfn1_pw060419p01q159 | C                                    | 68787   | FTN_0058   | 67916        | 69628         | R                             | 571                    | 842(1713)   |
| D08           | tnfn1_pw060419p01q160 | U                                    | 28448   | FTN_0027   | 28044        | 28592         | F                             | 183                    | 405(549)  |
| E08           | tnfn1_pw060419p01q161 | C                                    | 1445692   | FTN_1362   | 1445486      | 1445869       | R                             | 128                    | 178(384)  |
| F08           | tnfn1_pw060419p01q162 | C                                    | 1358625   | FTN_1285   | 1358234      | 1358818       | R                             | 195                    | 194(585)  |

| Well Position | Strain Name           | Sequencing Confirmation <sup>2</sup> | Effective Genome Position of Insertion <sup>3</sup> | Locus Tag | ORF Left End | ORF Right End | Direction of ORF <sup>4</sup> | Length of ORF (codons) | Effective Position of Insertion in ORF <sup>5</sup> |
|---------------|-----------------------|--------------------------------------|---|-----------|--------------|---------------|-------------------------------|------------------------|---|
| G08           | tnfn1_pw060419p01q163 | C                                    | 1729892   | FTN_1619  | 1728955      | 1730328       | F                             | 458                    | 938(1374)   |
| H08           | tnfn1_pw060419p01q164 | C                                    | 603900  | FTN_0576  | 603499       | 604158        | F                             | 220                    | 402(660)  |
| A09           | tnfn1_pw060419p01q165 | C                                    | 200588  | FTN_0183  | 200205       | 201119        | R                             | 305                    | 532(915)  |
| B09           | tnfn1_pw060419p01q166 | C                                    | 237307  | FTN_0215  | 237281       | 237943        | F                             | 221                    | 27(663)   |
| C09           | tnfn1_pw060419p01q167 | C                                    | 341589  | FTN_0336  | 341568       | 341762        | F                             | 65                     | 22(195)   |
| D09           | tnfn1_pw060419p01q168 | C                                    | 691087  | FTN_0651  | 691035       | 691433        | R                             | 133                    | 347(399)  |
| E09           | tnfn1_pw060419p01q169 | C                                    | 361764  | FTN_0358  | 360958       | 362274        | F                             | 439                    | 807(1317)   |
| F09           | tnfn1_pw060419p01q170 | C                                    | 1065618   | FTN_1006  | 1065118      | 1066374       | R                             | 419                    | 757(1257)   |
| G09           | tnfn1_pw060419p01q171 | C                                    | 541508  | FTN_0521  | 541170       | 541526        | F                             | 119                    | 339(357)  |
| H09           | tnfn1_pw060419p01q172 | C                                    | 1103123   | FTN_1044  | 1102531      | 1104324       | R                             | 598                    | 1202(1794)  |
| A10           | tnfn1_pw060419p01q173 | C                                    | 208025  | FTN_0190  | 207626       | 208801        | R                             | 392                    | 777(1176)   |
| B10           | tnfn1_pw060419p01q174 | C                                    | 1232560   | FTN_1160  | 1231701      | 1232618       | R                             | 306                    | 59(918)   |
| C10           | tnfn1_pw060419p01q175 | C                                    | 1038449   | FTN_0984  | 1037817      | 1039706       | R                             | 630                    | 1258(1890)  |
| D10           | tnfn1_pw060419p01q176 | C                                    | 48322   | FTN_0043  | 47436        | 48965         | F                             | 510                    | 887(1530)   |
| E10           | tnfn1_pw060419p01q177 | C                                    | 596889  | FTN_0570  | 596517       | 597620        | R                             | 368                    | 732(1104)   |
| F10           | tnfn1_pw060419p01q178 | C                                    | 1615535   | FTN_1518  | 1614441      | 1616447       | R                             | 669                    | 913(2007)   |
| G10           | tnfn1_pw060419p01q179 | C                                    | 454658  | FTN_0452  | 454529       | 455929        | F                             | 467                    | 130(1401)   |
| H10           | tnfn1_pw060419p01q180 | C                                    | 759267  | FTN_0713  | 757653       | 760250        | R                             | 866                    | 984(2598)   |
| A11           | tnfn1_pw060419p01q181 | C                                    | 1333842   | FTN_1262  | 1333174      | 1334967       | R                             | 598                    | 1126(1794)  |
| B11           | tnfn1_pw060419p01q182 | C                                    | 984776  | FTN_0927  | 984277       | 985686        | R                             | 470                    | 911(1410)   |
| C11           | tnfn1_pw060419p01q183 | C                                    | 783300  | FTN_0730  | 782807       | 784741        | F                             | 645                    | 494(1935)   |
| D11           | tnfn1_pw060419p01q184 | C                                    | 1465639   | FTN_1387  | 1465519      | 1465962       | F                             | 148                    | 121(444)  |
| E11           | tnfn1_pw060419p01q185 | C                                    | 1465649   | FTN_1387  | 1465519      | 1465962       | F                             | 148                    | 131(444)  |
| F11           | tnfn1_pw060419p01q186 | C                                    | 649387  | FTN_0618  | 649296       | 650240        | F                             | 315                    | 92(945)   |
| G11           | tnfn1_pw060419p01q187 | C                                    | 571313  | FTN_0545  | 570952       | 571905        | F                             | 318                    | 362(954)  |
| H11           | tnfn1_pw060419p01q188 | C                                    | 1476093   | FTN_1397  | 1473445      | 1477344       | R                             | 1300                   | 1252(3900)  |
| A12           | tnfn1_pw060419p01q189 | C                                    | 881204  | FTN_0824  | 881019       | 882230        | R                             | 404                    | 1027(1212)  |
| B12           | tnfn1_pw060419p01q190 | C                                    | 1821942   | FTN_1700  | 1820537      | 1822024       | R                             | 496                    | 83(1488)  |
| C12           | tnfn1_pw060419p01q191 | C                                    | 1450290   | FTN_1370  | 1450037      | 1450792       | R                             | 252                    | 503(756)  |
| D12           | tnfn1_pw060419p01q192 | C                                    | 1022019   | FTN_0966  | 1021590      | 1022996       | R                             | 469                    | 978(1407)   |
| E12           | tnfn1_pw060419p01q193 | C                                    | 1439192   | FTN_1358  | 1439009      | 1439578       | R                             | 190                    | 387(570)  |
| F12           | tnfn1_pw060419p01q194 | C                                    | 1245615   | FTN_1173  | 1244658      | 1245932       | R                             | 425                    | 318(1275)   |
| G12           | tnfn1_pw060419p01q195 | C                                    | 1372219   | FTN_1303  | 1372091      | 1372657       | F                             | 189                    | 129(567)  |
| H12           | tnfn1_pw060419p01q196 | C                                    | 413981  | FTN_0414  | 413585       | 414019        | R                             | 145                    | 39(435)   |

<sup>1</sup>All information in this table was provided by the depositor at the time of deposition.

<sup>2</sup>C: Confirmed; U: Unconfirmed

<sup>3</sup>The Effective Genome Position of Insertion indicates the effective insertion position that is most likely to be functionally relevant in light of the 9-bp Tn5 target-site duplication and the direction of transcription of the predicted gene of insertion. E.g., for genes oriented to the right, the value reported indicates the genomic position of the nucleotide immediately adjacent to the left end of the insertion element when accounting for the 9-bp target site duplication.

<sup>4</sup>F, forward relative to genome; R, reverse

<sup>5</sup>Nucleotide of Insertion(Length of ORF in Nucleotides)

Table 3: Plate 21 (tnfn1\_pw060419p01) – Sequence Mapping Quality Metrics<sup>1</sup>

| Well Position | Strain Name           | Junction Info | Position in Sequence Read of Last Vector (Nucleotide) | Length of Match to Transposon | Transposon Match Score | Average Phred Score for Transposon Match | Genome Position Info | Length of Match to Genome | Genome Match Score | Average Phred Score for Genome Match |
|---------------|-----------------------|---------------|---|-------------------------------|------------------------|--|----------------------|---------------------------|--------------------|--------------------------------------|
| A01           | tnfn1_pw060419p01q101 | EXACT(0)      | EXACT(0)  | 121                           | 119                    | 96                                       | 30                   | EXACT(0)                  | 200                | 166                                  |
| B01           | tnfn1_pw060419p01q102 | EXACT(0)      | EXACT(0)  | 122                           | 119                    | 95                                       | 30                   | EXACT(0)                  | 200                | 187                                  |
| C01           | tnfn1_pw060419p01q103 | EXACT(0)      | EXACT(0)  | 121                           | 112                    | 96                                       | 26                   | EXACT(0)                  | 200                | 177                                  |
| D01           | tnfn1_pw060419p01q104 | EXACT(0)      | EXACT(0)  | 156                           | 153                    | 122                                      | 35                   | EXACT(0)                  | 200                | 175                                  |
| E01           | tnfn1_pw060419p01q105 | EXACT(0)      | EXACT(0)  | 122                           | 119                    | 98                                       | 31                   | EXACT(0)                  | 129                | 125                                  |
| F01           | tnfn1_pw060419p01q106 | EXACT(0)      | EXACT(0)  | 122                           | 109                    | 86                                       | 26                   | EXACT(0)                  | 200                | 186                                  |
| G01           | tnfn1_pw060419p01q107 | EXACT(0)      | EXACT(0)  | 123                           | 106                    | 92                                       | 26                   | EXACT(0)                  | 200                | 192                                  |
| H01           | tnfn1_pw060419p01q108 | EXACT(0)      | EXACT(0)  | 122                           | 105                    | 73                                       | 24                   | EXACT(0)                  | 200                | 186                                  |
| A02           | tnfn1_pw060419p01q109 | EXACT(0)      | EXACT(0)  | 124                           | 120                    | 109                                      | 31                   | EXACT(0)                  | 200                | 188                                  |
| B02           | tnfn1_pw060419p01q110 | EXACT(0)      | EXACT(0)  | 123                           | 120                    | 110                                      | 30                   | EXACT(0)                  | 200                | 194                                  |
| C02           | tnfn1_pw060419p01q111 | EXACT(0)      | EXACT(0)  | 124                           | 109                    | 62                                       | 21                   | EXACT(0)                  | 200                | 181                                  |
| D02           | tnfn1_pw060419p01q112 | EXACT(0)      | EXACT(0)  | 121                           | 112                    | 93                                       | 26                   | EXACT(0)                  | 200                | 191                                  |
| E02           | tnfn1_pw060419p01q113 | EXACT(0)      | EXACT(0)  | 124                           | 120                    | 104                                      | 29                   | EXACT(0)                  | 200                | 188                                  |
| F02           | tnfn1_pw060419p01q114 | EXACT(0)      | EXACT(0)  | 121                           | 112                    | 96                                       | 36                   | EXACT(0)                  | 200                | 187                                  |
| G02           | tnfn1_pw060419p01q115 | EXACT(0)      | EXACT(0)  | 123                           | 112                    | 64                                       | 20                   | EXACT(0)                  | 200                | 185                                  |
| H02           | tnfn1_pw060419p01q116 | EXACT(0)      | EXACT(0)  | 123                           | 120                    | 98                                       | 29                   | EXACT(0)                  | 200                | 184                                  |

| Well Position | Strain Name           | Junction Info | Position in Sequence Read of Last Vector (Nucleotide) | Length of Match to Transposon | Transposon Match Score | Average Phred Score for Transposon Match | Genome Position Info | Length of Match to Genome | Genome Match Score | Average Phred Score for Genome Match |
|---------------|-----------------------|---------------|---|-------------------------------|------------------------|--|----------------------|---------------------------|--------------------|--------------------------------------|
| A03           | tnfn1_pw060419p01q117 | EXACT(0)      | EXACT(0)  | 122                           | 106                    | 85                                       | 24                   | EXACT(0)                  | 200                | 182                                  |
| B03           | tnfn1_pw060419p01q118 | EXACT(0)      | EXACT(0)  | 125                           | 120                    | 106                                      | 31                   | EXACT(0)                  | 145                | 134                                  |
| C03           | tnfn1_pw060419p01q119 | EXACT(0)      | EXACT(0)  | 122                           | 112                    | 104                                      | 32                   | EXACT(0)                  | 200                | 189                                  |
| D03           | tnfn1_pw060419p01q120 | EXACT(0)      | EXACT(0)  | 121                           | 112                    | 90                                       | 33                   | EXACT(0)                  | 200                | 184                                  |
| E03           | tnfn1_pw060419p01q121 | EXACT(0)      | EXACT(0)  | 122                           | 83                     | 56                                       | 17                   | EXACT(0)                  | 200                | 192                                  |
| F03           | tnfn1_pw060419p01q122 | EXACT(0)      | EXACT(0)  | 123                           | 120                    | 105                                      | 28                   | EXACT(0)                  | 200                | 189                                  |
| G03           | tnfn1_pw060419p01q123 | EXACT(0)      | EXACT(0)  | 159                           | 153                    | 144                                      | 40                   | EXACT(0)                  | 200                | 182                                  |
| H03           | tnfn1_pw060419p01q124 | EXACT(0)      | EXACT(0)  | 158                           | 153                    | 126                                      | 30                   | EXACT(0)                  | 200                | 193                                  |
| A04           | tnfn1_pw060419p01q125 | EXACT(0)      | EXACT(0)  | 157                           | 153                    | 134                                      | 38                   | EXACT(0)                  | 151                | 138                                  |
| B04           | tnfn1_pw060419p01q126 | EXACT(0)      | EXACT(0)  | 156                           | 145                    | 124                                      | 39                   | EXACT(0)                  | 200                | 196                                  |
| C04           | tnfn1_pw060419p01q127 | EXACT(0)      | EXACT(0)  | 155                           | 145                    | 134                                      | 42                   | EXACT(0)                  | 200                | 190                                  |
| D04           | tnfn1_pw060419p01q128 | EXACT(0)      | EXACT(0)  | 158                           | 152                    | 125                                      | 34                   | EXACT(0)                  | 200                | 183                                  |
| E04           | tnfn1_pw060419p01q129 | EXACT(0)      | EXACT(0)  | 158                           | 153                    | 136                                      | 38                   | EXACT(0)                  | 200                | 189                                  |
| F04           | tnfn1_pw060419p01q130 | EXACT(0)      | EXACT(0)  | 155                           | 145                    | 110                                      | 28                   | EXACT(0)                  | 200                | 179                                  |
| G04           | tnfn1_pw060419p01q131 | EXACT(0)      | EXACT(0)  | 158                           | 153                    | 127                                      | 38                   | EXACT(0)                  | 200                | 188                                  |
| H04           | tnfn1_pw060419p01q132 | EXACT(0)      | EXACT(0)  | 157                           | 152                    | 133                                      | 38                   | EXACT(0)                  | 198                | 187                                  |
| A05           | tnfn1_pw060419p01q133 | EXACT(0)      | EXACT(0)  | 157                           | 152                    | 102                                      | 21                   | EXACT(0)                  | 200                | 190                                  |
| B05           | tnfn1_pw060419p01q134 | EXACT(0)      | EXACT(0)  | 155                           | 145                    | 129                                      | 44                   | EXACT(0)                  | 200                | 190                                  |
| C05           | tnfn1_pw060419p01q135 | EXACT(0)      | EXACT(0)  | 157                           | 152                    | 124                                      | 39                   | EXACT(0)                  | 200                | 192                                  |
| D05           | tnfn1_pw060419p01q136 | EXACT(0)      | EXACT(0)  | 155                           | 144                    | 138                                      | 42                   | EXACT(0)                  | 200                | 191                                  |
| E05           | tnfn1_pw060419p01q137 | EXACT(0)      | EXACT(0)  | 161                           | 155                    | 144                                      | 41                   | EXACT(0)                  | 200                | 123                                  |
| F05           | tnfn1_pw060419p01q138 | EXACT(0)      | EXACT(0)  | 155                           | 153                    | 138                                      | 40                   | EXACT(0)                  | 199                | 191                                  |
| G05           | tnfn1_pw060419p01q139 | NONE          | EXACT(0)  | 158                           | 153                    | 130                                      | 40                   | EXACT(0)                  | 200                | 158                                  |
| H05           | tnfn1_pw060419p01q140 | EXACT(0)      | EXACT(0)  | 157                           | 153                    | 134                                      | 37                   | EXACT(0)                  | 200                | 191                                  |
| A06           | tnfn1_pw060419p01q141 | EXACT(0)      | EXACT(0)  | 157                           | 145                    | 104                                      | 23                   | EXACT(0)                  | 200                | 185                                  |
| B06           | tnfn1_pw060419p01q142 | EXACT(0)      | EXACT(0)  | 159                           | 153                    | 139                                      | 42                   | EXACT(0)                  | 200                | 185                                  |
| C06           | tnfn1_pw060419p01q143 | EXACT(0)      | EXACT(0)  | 156                           | 142                    | 102                                      | 18                   | EXACT(0)                  | 200                | 187                                  |
| D06           | tnfn1_pw060419p01q144 | EXACT(0)      | EXACT(0)  | 158                           | 153                    | 136                                      | 31                   | EXACT(0)                  | 200                | 195                                  |
| E06           | tnfn1_pw060419p01q145 | EXACT(0)      | EXACT(0)  | 154                           | 145                    | 126                                      | 42                   | EXACT(0)                  | 200                | 187                                  |
| F06           | tnfn1_pw060419p01q146 | EXACT(0)      | EXACT(0)  | 157                           | 153                    | 130                                      | 32                   | EXACT(0)                  | 200                | 189                                  |
| G06           | tnfn1_pw060419p01q147 | EXACT(0)      | EXACT(0)  | 155                           | 145                    | 134                                      | 43                   | EXACT(0)                  | 57                 | 56                                   |
| H06           | tnfn1_pw060419p01q148 | EXACT(0)      | EXACT(0)  | 157                           | 151                    | 138                                      | 36                   | EXACT(0)                  | 200                | 182                                  |
| A07           | tnfn1_pw060419p01q149 | EXACT(0)      | EXACT(0)  | 156                           | 154                    | 132                                      | 39                   | EXACT(0)                  | 200                | 192                                  |
| B07           | tnfn1_pw060419p01q150 | EXACT(0)      | EXACT(0)  | 156                           | 114                    | 102                                      | 36                   | EXACT(0)                  | 200                | 191                                  |
| C07           | tnfn1_pw060419p01q151 | EXACT(0)      | EXACT(0)  | 156                           | 145                    | 131                                      | 42                   | EXACT(0)                  | 200                | 189                                  |
| D07           | tnfn1_pw060419p01q152 | EXACT(0)      | EXACT(0)  | 155                           | 145                    | 110                                      | 29                   | EXACT(0)                  | 200                | 183                                  |
| E07           | tnfn1_pw060419p01q153 | NONE          | EXACT(0)  | 157                           | 145                    | 104                                      | 24                   | EXACT(0)                  | 200                | 174                                  |
| F07           | tnfn1_pw060419p01q154 | EXACT(0)      | EXACT(0)  | 155                           | 145                    | 90                                       | 19                   | EXACT(0)                  | 200                | 153                                  |
| G07           | tnfn1_pw060419p01q155 | EXACT(0)      | EXACT(0)  | 155                           | 139                    | 131                                      | 43                   | EXACT(0)                  | 200                | 189                                  |
| H07           | tnfn1_pw060419p01q156 | EXACT(0)      | EXACT(0)  | 158                           | 145                    | 133                                      | 36                   | EXACT(0)                  | 111                | 108                                  |
| A08           | tnfn1_pw060419p01q157 | EXACT(0)      | EXACT(0)  | 121                           | 112                    | 83                                       | 24                   | EXACT(0)                  | 200                | 187                                  |
| B08           | tnfn1_pw060419p01q158 | EXACT(0)      | EXACT(0)  | 124                           | 119                    | 108                                      | 34                   | EXACT(0)                  | 198                | 166                                  |
| C08           | tnfn1_pw060419p01q159 | EXACT(0)      | EXACT(0)  | 123                           | 120                    | 93                                       | 22                   | EXACT(0)                  | 200                | 175                                  |
| D08           | tnfn1_pw060419p01q160 | EXACT(0)      | EXACT(0)  | 123                           | 119                    | 98                                       | 28                   | EXACT(0)                  | 200                | 186                                  |
| E08           | tnfn1_pw060419p01q161 | EXACT(0)      | EXACT(0)  | 123                           | 73                     | 66                                       | 29                   | EXACT(0)                  | 174                | 160                                  |
| F08           | tnfn1_pw060419p01q162 | EXACT(0)      | EXACT(0)  | 112                           | 113                    | 98                                       | 41                   | EXACT(0)                  | 200                | 189                                  |
| G08           | tnfn1_pw060419p01q163 | EXACT(0)      | EXACT(0)  | 121                           | 112                    | 96                                       | 29                   | EXACT(0)                  | 200                | 187                                  |
| H08           | tnfn1_pw060419p01q164 | EXACT(0)      | EXACT(0)  | 123                           | 120                    | 75                                       | 24                   | EXACT(0)                  | 200                | 191                                  |
| A09           | tnfn1_pw060419p01q165 | EXACT(0)      | EXACT(0)  | 116                           | 112                    | 62                                       | 25                   | EXACT(0)                  | 200                | 126                                  |
| B09           | tnfn1_pw060419p01q166 | EXACT(0)      | EXACT(0)  | 121                           | 106                    | 70                                       | 22                   | EXACT(0)                  | 200                | 166                                  |
| C09           | tnfn1_pw060419p01q167 | EXACT(0)      | EXACT(0)  | 123                           | 120                    | 99                                       | 32                   | EXACT(0)                  | 200                | 184                                  |
| D09           | tnfn1_pw060419p01q168 | EXACT(0)      | EXACT(0)  | 121                           | 85                     | 67                                       | 21                   | EXACT(0)                  | 200                | 193                                  |
| E09           | tnfn1_pw060419p01q169 | EXACT(0)      | EXACT(0)  | 157                           | 145                    | 123                                      | 35                   | EXACT(0)                  | 200                | 196                                  |
| F09           | tnfn1_pw060419p01q170 | EXACT(0)      | EXACT(0)  | 157                           | 142                    | 131                                      | 31                   | EXACT(0)                  | 200                | 177                                  |
| G09           | tnfn1_pw060419p01q171 | EXACT(0)      | EXACT(0)  | 156                           | 145                    | 131                                      | 36                   | EXACT(0)                  | 200                | 191                                  |
| H09           | tnfn1_pw060419p01q172 | EXACT(0)      | EXACT(0)  | 155                           | 139                    | 134                                      | 52                   | EXACT(0)                  | 200                | 180                                  |
| A10           | tnfn1_pw060419p01q173 | EXACT(0)      | EXACT(0)  | 155                           | 145                    | 110                                      | 32                   | EXACT(0)                  | 200                | 182                                  |
| B10           | tnfn1_pw060419p01q174 | EXACT(0)      | EXACT(0)  | 157                           | 116                    | 112                                      | 42                   | EXACT(0)                  | 200                | 168                                  |
| C10           | tnfn1_pw060419p01q175 | EXACT(0)      | EXACT(0)  | 156                           | 145                    | 124                                      | 34                   | EXACT(0)                  | 200                | 194                                  |
| D10           | tnfn1_pw060419p01q176 | EXACT(0)      | EXACT(0)  | 156                           | 145                    | 140                                      | 50                   | EXACT(0)                  | 200                | 159                                  |
| E10           | tnfn1_pw060419p01q177 | EXACT(0)      | EXACT(0)  | 155                           | 118                    | 100                                      | 25                   | EXACT(0)                  | 200                | 187                                  |
| F10           | tnfn1_pw060419p01q178 | EXACT(0)      | EXACT(0)  | 156                           | 153                    | 127                                      | 35                   | EXACT(0)                  | 200                | 191                                  |

| Well Position | Strain Name           | Junction Info | Position in Sequence Read of Last Vector (Nucleotide) | Length of Match to Transposon | Transposon Match Score | Average Phred Score for Transposon Match | Genome Position Info | Length of Match to Genome | Genome Match Score | Average Phred Score for Genome Match |
|---------------|-----------------------|---------------|---|-------------------------------|------------------------|--|----------------------|---------------------------|--------------------|--------------------------------------|
| G10           | tnfn1_pw060419p01q179 | EXACT(0)      | EXACT(0)  | 155                           | 145                    | 112                                      | 33                   | EXACT(0)                  | 200                | 182                                  |
| H10           | tnfn1_pw060419p01q180 | EXACT(0)      | EXACT(0)  | 156                           | 139                    | 127                                      | 42                   | EXACT(0)                  | 200                | 189                                  |
| A11           | tnfn1_pw060419p01q181 | EXACT(0)      | EXACT(0)  | 155                           | 145                    | 123                                      | 35                   | EXACT(0)                  | 200                | 192                                  |
| B11           | tnfn1_pw060419p01q182 | EXACT(0)      | EXACT(0)  | 158                           | 152                    | 134                                      | 36                   | EXACT(0)                  | 200                | 194                                  |
| C11           | tnfn1_pw060419p01q183 | EXACT(0)      | EXACT(0)  | 159                           | 153                    | 143                                      | 45                   | EXACT(0)                  | 200                | 195                                  |
| D11           | tnfn1_pw060419p01q184 | EXACT(0)      | EXACT(0)  | 156                           | 145                    | 125                                      | 43                   | EXACT(0)                  | 200                | 190                                  |
| E11           | tnfn1_pw060419p01q185 | EXACT(0)      | EXACT(0)  | 154                           | 87                     | 43                                       | 12                   | EXACT(0)                  | 200                | 190                                  |
| F11           | tnfn1_pw060419p01q186 | EXACT(0)      | EXACT(0)  | 155                           | 146                    | 132                                      | 39                   | EXACT(0)                  | 200                | 185                                  |
| G11           | tnfn1_pw060419p01q187 | EXACT(0)      | EXACT(0)  | 155                           | 136                    | 84                                       | 20                   | EXACT(0)                  | 200                | 194                                  |
| H11           | tnfn1_pw060419p01q188 | EXACT(0)      | EXACT(0)  | 158                           | 153                    | 147                                      | 42                   | EXACT(0)                  | 200                | 169                                  |
| A12           | tnfn1_pw060419p01q189 | EXACT(0)      | EXACT(0)  | 156                           | 88                     | 71                                       | 16                   | EXACT(0)                  | 200                | 179                                  |
| B12           | tnfn1_pw060419p01q190 | EXACT(0)      | EXACT(0)  | 156                           | 142                    | 131                                      | 40                   | EXACT(0)                  | 200                | 195                                  |
| C12           | tnfn1_pw060419p01q191 | EXACT(0)      | EXACT(0)  | 155                           | 152                    | 137                                      | 52                   | EXACT(0)                  | 200                | 157                                  |
| D12           | tnfn1_pw060419p01q192 | EXACT(0)      | EXACT(0)  | 158                           | 153                    | 129                                      | 37                   | EXACT(0)                  | 200                | 187                                  |
| E12           | tnfn1_pw060419p01q193 | EXACT(0)      | EXACT(0)  | 156                           | 153                    | 129                                      | 42                   | EXACT(0)                  | 200                | 190                                  |
| F12           | tnfn1_pw060419p01q194 | EXACT(0)      | EXACT(0)  | 153                           | 153                    | 137                                      | 39                   | EXACT(0)                  | 200                | 193                                  |
| G12           | tnfn1_pw060419p01q195 | EXACT(0)      | EXACT(0)  | 157                           | 145                    | 122                                      | 34                   | EXACT(0)                  | 200                | 191                                  |
| H12           | tnfn1_pw060419p01q196 | EXACT(0)      | EXACT(0)  | 156                           | 152                    | 130                                      | 34                   | EXACT(0)                  | 192                | 170                                  |

<sup>1</sup>All information in this table was provided by the depositor at the time of deposition.