

# GENOTYPING PROTOCOL

## MUTANT MOUSE RESOURCE & RESEARCH CENTER: UC DAVIS

[mmrrc@ucdavis.edu](mailto:mmrrc@ucdavis.edu)

530-754-MMRRC

Protocol Name: CR10857 Tgds EXDEL

Protocol: GoTaq® G2 Colorless Master Mix(Promega)

| Reagent/Constituent                                                                   | Volume (μL)     |
|---------------------------------------------------------------------------------------|-----------------|
| Water                                                                                 | 4.5             |
| GoTaq® G2 Colorless Master Mix,2X                                                     | 7.5             |
| Primer 1. (stock concentration is 20μM) comF                                          | 0.5             |
| Primer 2. (stock concentration is 20μM) wtR                                           | 0.5             |
| Primer 3. (stock concentration is 20μM) mutR                                          | 0.5             |
| DNA (example) extracted w/ "Qiagen DNeasy columns or other similar silica based kits" | 1.5             |
| <b>TOTAL VOLUME OF REACTION:</b>                                                      | <b>15.00 μL</b> |

### Comments on protocol:

- Protocol may work with other DNA extraction methods.

### Strategy:

| Steps                                                     | Temp (°C )      | Time (m:ss)         | # of Cycles |
|-----------------------------------------------------------|-----------------|---------------------|-------------|
| 1. Initiation/Melting HOT START? <input type="checkbox"/> | 94              | 2:00                | 1x          |
| 2. Denaturation                                           | 94              | 0:10                |             |
| 3. Annealing steps 2-3-4 cycle in sequence                | 65 (↓1°C/cycle) | 0:30                | 10x         |
| 4. Elongation                                             | 68              | 2:00                |             |
| 5. Denaturation                                           | 94              | 0:15                |             |
| 6. Annealing steps 5-6-7 cycle in sequence                | 55              | 0:30                | 25x         |
| 7. Elongation                                             | 68              | 2:00 (↑20sec/cycle) |             |
| 8. Finish                                                 | 4               | ∞                   | n/a         |

### Primers:

### Electrophoresis Protocol:

| Name                   | Nucleotide Sequence (5' - 3') | Agarose: 1.5%                   | V: 90            |
|------------------------|-------------------------------|---------------------------------|------------------|
| 1. CR_Tgds_XD_cKO_comF | ACACTTTCCAGGATCACTCCAGCT      | Estimated Running Time: 90 min. |                  |
| 2. CR_Tgds_XD_cKO_wtR* | GTGCTTACCTACATGTGTCTGTGCAG    | <b>Primer Combination</b>       | <b>Band (bp)</b> |
| 3. CR_Tgds_XD_cKO_mutR | CGACAACGTGAGTGGCAGTCAG        | 1 & 2, 1 & 3                    | 491, 736         |
|                        |                               | 1 & 3                           | 505              |
|                        |                               |                                 | mutant           |

**Allele Description:** Exon 4 [ENSMUSE00000123791](#) and flanking splicing regions were constitutively deleted from the Tgds gene [ENSMUSG0000022130.10](#) using CRISPR Cas9 gene editing technology in mouse zygotes. Subsequent founders were backcrossed to C57BL6/N to produce sequence confirmed heterozygous animals.

\*wtR primer untested (ePCR verified)

