

**Supplemental Table 1.** Primers used in this study.

| Name                    | Sequence                   | Purpose                    |
|-------------------------|----------------------------|----------------------------|
| Promoter to exon 1M p1* | 5`-TTCTCTCCCTCTCCTCTGCA-3` | Amplification & sequencing |
| Promoter to exon 1M p2* | 5`-TGGTTTCCGGATTTTCTG-3`   | Sequencing                 |
| Promoter to exon 1M p3* | 5`-CCCAGCTGAGCACGGTAG-3`   | Sequencing                 |
| Promoter to exon 1M p4  | 5`-CGCCTACCGTGCTCAGCT-3`   | Sequencing                 |
| Promoter to exon 1M p5* | 5`-CTCGCCCTCCAACCTTCC-3`   | Amplification & sequencing |
| Exon 1S p1**            | 5`-CACAGGCTCCACATGGTCT-3`  | Amplification & sequencing |
| Exon 1S p2**            | 5`-ACCCAGCCCTACTGCTCA-3`   | Amplification & sequencing |
| Exon 2 p1*              | 5`-GTTGGTTCCTGGATGAAGA-3`  | Amplification & sequencing |
| Exon 2 p2*              | 5`-TGCCTTGAGCACACAGTAGG-3` | Amplification & sequencing |
| Exons 3 to 4 p1*        | 5`-TGGCATCAGTACCCCTTCTC-3` | Amplification & sequencing |
| Exons 3 to 4 p2*        | 5`-CTCTGCCAACCTCCACATT-3`  | Amplification & sequencing |
| Exon 5 p1*              | 5`-AAGAGGAGGTGCTTCCTTCC-3` | Amplification & sequencing |

|                   |                             |                            |
|-------------------|-----------------------------|----------------------------|
| Exon 5 p2*        | 5`-TGCCTTCACCTGCCTAGTTT-3`  | Amplification & sequencing |
| Exons 6 to 7 p1*  | 5`-CTCAGACCCCCACAGCAG-3`    | Amplification & sequencing |
| Exons 6 to 7 p2*  | 5`-CCATGCAACCACACAGACC-3`   | Amplification & sequencing |
| Exon 8 p1*        | 5`-CAGGTGAGATGGGGAAAGAG-3`  | Amplification & sequencing |
| Exon 8 p2*        | 5`-TTTCTAGCCATGTGCTGTGG-3`  | Amplification & sequencing |
| Exon 9-5' end p1* | 5`-ACAGGAGTGTGGTGATCAGG-3`  | Amplification & sequencing |
| Exon 9-5' end p2* | 5`-CCAAAGGGACTTTTTGGTGT-3`  | Amplification & sequencing |
| Exon 9-3' end p1* | 5`-ACTAGGCCAAGTCTGCAAGC-3`  | Amplification & sequencing |
| Exon 9-3' end p2* | 5`-CGATGAACACACGAAAAGTGA-3` | Amplification & sequencing |

Exon 1M, orthologous to spliced exon 1M for human b5R microsomal enzyme; exon 1S, orthologous to spliced exon 1S for bovine b5R soluble enzyme; \*, designed by Funk-Keenan J, *et al.*,<sup>23</sup> \*\*, designed by McKenna JA, *et al.*<sup>24</sup>