Supplementary Table S2: List of genes, their position and function identified within haploblocks containing the ten most associated SNPs for maternal calving difficulty.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| BTA | Haploblock position | Gene | Position | Function |
| 28 | No haploblock | N/A | N/A | N/A |
| 12 | 57164786-57253923 | NONE | N/A | N/A |
| 11 | 846983-882225 | NONE | N/A | N/A |
| 9 | No haploblock | N/A | N/A | N/A |
| 16 | No haploblock | N/A | N/A | N/A |
| 17 | 45656849-46310121 | ACCN5 | [45,812,197-45,824,166](http://jun2011.archive.ensembl.org/Bos_taurus/Location/View?db=core;g=ENSBTAG00000044109;r=17:45812197-45824166;t=ENSBTAT00000061078) | Acid-sensing (proton-gated) ion channel family member 5 |
|  |  | GUCY1B3 | [45,815,868-45,857,540](http://jun2011.archive.ensembl.org/Bos_taurus/Location/View?db=core;g=ENSBTAG00000003840;r=17:45815868-45857540;t=ENSBTAT00000005009) | GUCY1B3 catalyzes the conversion of GTP to the second messenger cGMP and functions as the main receptor for nitric oxide (NO) and nitrovasodilator drugs |
|  |  | CTSO | [45,915,251-45,939,356](http://jun2011.archive.ensembl.org/Bos_taurus/Location/View?db=core;g=ENSBTAG00000011063;r=17:45915251-45939356;t=ENSBTAT00000014691) | Cathepsin O is a [cysteine protease](http://en.wikipedia.org/wiki/Cysteine_protease) and a member of the [cathepsin](http://en.wikipedia.org/wiki/Cathepsin) family and [papain](http://en.wikipedia.org/wiki/Papain) superfamily |
|  |  | TDO2 | [45,944,647-45,961,246](http://jun2011.archive.ensembl.org/Bos_taurus/Location/View?db=core;g=ENSBTAG00000011062;r=17:45944647-45961246;t=ENSBTAT00000014690) | Incorporates oxygen into the indole moiety of tryptophan |
|  |  | GUCY1A1 | [46,088,197-46,153,264](http://jun2011.archive.ensembl.org/Bos_taurus/Location/View?db=core;g=ENSBTAG00000014576;r=17:46088197-46153264;t=ENSBTAT00000019398) | The protein encoded by this gene is an alpha subunit of the soluble guanylate cyclases and it interacts with a beta subunit to form the guanylate cyclase enzyme, which is activated by nitric oxide |
| 17 | 39145131-39505881 | NONE | N/A | N/A |
| 28 | 41684334-41994419 | PPYR1 | [41,791,184-41,792,535](http://jun2011.archive.ensembl.org/Bos_taurus/Location/View?db=core;g=ENSBTAG00000004760;r=28:41791184-41792535) | Pancreatic polypeptide receptor 1 |
|  |  | **ANXA8** | [41,833,544-41,849,860](http://jun2011.archive.ensembl.org/Bos_taurus/Location/View?db=core;g=ENSBTAG00000018499;r=28:41833544-41849860) | This is an anticoagulant protein that acts as an indirect inhibitor of the thromboplastin-specific complex, which is involved in the blood coagulation cascade |
| 16 | 72861402-72920777 | NONE | N/A | N/A |