**Supplementary Material:** North Atlantic right whale *EuglDRB1-DRB2* haplotypes identified by following transmission patterns in four known matrilines and six known patrilines. *Eugl-DRB2* genotypes where the null allele(s).

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Hap** | ***Eugl-DRB1\**** | ***Eugl-DRB2\**** |  |  |  | **Hap** | ***Eugl-DRB1\**** | ***Eugl-DRB2\**** |
| **Matriline 1 - Generation 1** | | | |  |  | **Patriline 1 - Generation 1** | | | |  |
| **1001** | Cow | D | 01 | 05 |  | **1156** | Sire | D | 01 | 05 |
|  |  | D | 01 | 05 |  |  |  | F | 03 | 01 |
| **1033** | Sire | D | 01 | 05 |  | **1001** | Cow | D | 01 | 05 |
|  |  | C | 01 | 04 |  |  |  | D | 01 | 05 |
| **1156** | Sire | D | 01 | 05 |  | **1266** | Cow | D | 01 | 05 |
|  |  | F | 03 | 01 |  |  |  | D | 01 | 05 |
| **1279** | Sire | A | 01 | 02 |  | **1266** | Cow | D | 01 | 05 |
|  |  | K | 06 | 03 |  |  |  |  |  |  |
| **Generation 2** | |  |  |  |  | **Generation 2** | | | |  |
| **1301** | Cow | D | 01 | 05 |  | **1603** | Sire | D | 01 | 05 |
|  |  | C | 01 | 04 |  |  |  | F | 03 | 01 |
| **1803** | Sire | D | 01 | 05 |  | **1911** | Cow | D | 01 | 05 |
|  |  | F | 03 | 01 |  |  |  | K | 06 | 03 |
| **1911** | Cow | D | 01 | 05 |  | **1803** | Sire | D | 01 | 05 |
|  |  | K | 06 | 03 |  |  |  | F | 03 | 01 |
| **1327** | Sire | D | 01 | 05 |  | **1301** | Cow | D | 01 | 05 |
|  |  | D | 01 | 05 |  |  |  | C | 01 | 04 |
| **1603** | Sire | D | 01 | 05 |  |  |  |  |  |  |
|  |  | F | 03 | 01 |  |  |  |  |  |  |
| **Matriline 2 - Generation 1** | | | |  |  | **Patriline 2 - Generation 1** | | | |  |
| **1142** | Cow | B | 01 | 03 |  | **1033** | Sire | D | 01 | 05 |
|  |  | C | 01 | 04 |  |  |  | C | 01 | 04 |
| **1050** | Sire | D | 01 | 05 |  | **1001** | Cow | D | 01 | 05 |
|  |  | F | 03 | 01 |  |  |  | D | 01 | 05 |
| **1149** | Sire | D | 01 | 05 |  | **1004** | Cow | D | 01 | 05 |
|  |  | H | 04 | 01 |  |  |  | D | 01 | 05 |
| **1514** | Sire | D | 01 | 05 |  | **1157** | Cow | D | 01 | 05 |
|  |  | E | 02 | 01 |  |  |  | D | 01 | 05 |
| **1630** | Sire | D | 01 | 05 |  | **1509** | Cow | D | 01 | 05 |
|  |  | H | 04 | 01 |  |  |  | D | 01 | 05 |
| **Generation 2** | | | | |  |  |  |  |  |  |
| **1123** | Cow | D | 01 | 05 |  |  |  |  |  |  |
|  |  | C | 01 | 04 |  |  |  |  |  |  |
| **1818** | Sire | D | 01 | 05 |  |  |  |  |  |  |
|  |  | C | 01 | 04 |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Hap** | ***Eugl-DRB1\**** | ***Eugl-DRB2\**** |  |  |  | **Hap** | ***Eugl-DRB1\**** | ***Eugl-DRB2\**** |
| **Matriline 3 - Generation 1** | | | |  |  | **Patriline 3 - Generation 1** | | | |  |
| **1266** | Cow | D | 01 | 05 |  | **1050** | Sire | D | 01 | 05 |
|  |  | D | 01 | 05 |  |  |  | F | 03 | 01 |
| **1156** | Sire(x2) | D | 01 | 05 |  | **1142** | Cow | B | 01 | 03 |
|  |  | F | 03 | 01 |  |  |  | C | 01 | 04 |
| **1333** | Sire | D | 01 | 05 |  | **1179** | Cow | F | 03 | 01 |
|  |  | D | 01 | 05 |  |  |  | K | 06 | 03 |
| **2140** | Sire | D | 01 | 05 |  |  |  |  |  |  |
|  |  | L | 06 | 04 |  |  |  |  |  |  |
| **Matriline 4 - Generation 1** | | | |  |  | **Patriline 4 - Generation 1** | | | |  |
| **1157** | Cow | D | 01 | 05 |  | **1155** | Sire | D | 01 | 05 |
|  |  | D | 01 | 05 |  |  |  | K | 06 | 03 |
| **1033** | Sire | D | 01 | 05 |  | **1171** | Cow | D | 01 | 05 |
|  |  | C | 01 | 04 |  |  |  | C | 01 | 04 |
| **1052** | Sire | D | 01 | 05 |  | **1308** | Cow | D | 01 | 05 |
|  |  | K | 06 | 03 |  |  |  | D | 01 | 05 |
|  |  |  |  |  |  | **Patriline 5 - Generation 1** | | | |  |
|  |  |  |  |  |  | **1279** | Sire | A | 01 | 02 |
|  |  |  |  |  |  |  |  | K | 06 | 03 |
|  |  |  |  |  |  | **1001** | Cow | D | 01 | 05 |
|  |  |  |  |  |  |  |  | D | 01 | 05 |
|  |  |  |  |  |  | **2614** | Cow | D | 01 | 05 |
|  |  |  |  |  |  |  |  | D | 01 | 05 |
|  |  |  |  |  |  | **Patriline 6 - Generation 1** | | | |  |
|  |  |  |  |  |  | **1327** | Sire | D | 01 | 05 |
|  |  |  |  |  |  |  |  | D | 01 | 05 |
|  |  |  |  |  |  | **1602** | Cow | D | 01 | 05 |
|  |  |  |  |  |  |  |  | D | 01 | 05 |
|  |  |  |  |  |  | **1911** | Cow | D | 01 | 05 |
|  |  |  |  |  |  |  |  | K | 06 | 03 |

\**Eugl-DRB2\*05* represents the *Eugl-DRB2* null allele(s) that did not amplify with the

DRB5c/3c primer set.