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 TBX3 and ASIP genotypes reveal discrepancies in officially recorded coat colors of Hucul horses
Animal journal

Supplementary Table S3. Genotypes and coat colors of all tested Hucul horses

| Horse ID | TBX3 InDel | Nd1 SNP | Combined TBX3 genotype | ASIP | Coat color (PHBA) | Coat color (genotype)* | Coat color consistency (PHBA vs. genotype) |
|--|------------|---------|------------------------|------|-------------------|------------------------|--|
| Blue dun identified horses (n=72) | | | | | | | |
| 12066 | ins/ins | TT | nd1/nd1 | aa | blue dun | black | NO |
| 12111 | ins/del | G- | D/nd2 | aa | blue dun | blue dun | YES |
| 12114 | ins/ins | GT | D/nd1 | aa | blue dun | blue dun | YES |
| 12118 | ins/del | G- | D/nd2 | aa | blue dun | blue dun | YES |
| 12192 | ins/ins | GT | D/nd1 | aa | blue dun | blue dun | YES |
| 12973 | ins/ins | GT | D/nd1 | aa | blue dun | blue dun | YES |
| 13581 | ins/del | T- | nd1/nd1 | aa | blue dun | black | NO |
| 14318 | ins/del | G- | D/nd2 | aa | blue dun | blue dun | YES |
| 14558 | ins/del | G- | D/nd2 | aa | blue dun | blue dun | YES |
| 14563 | ins/ins | TT | nd1/nd1 | aa | blue dun | black | NO |
| 14811 | ins/ins | GT | D/nd1 | aa | blue dun | blue dun | YES |
| 15044 | ins/ins | TT | nd1/nd1 | aa | blue dun | black | NO |
| 16159 | ins/ins | GG | D/D | aa | blue dun | blue dun | YES |
| 17674 | ins/ins | GG | D/D | aa | blue dun | blue dun | YES |
| 18148 | ins/ins | GG | D/D | aa | blue dun | blue dun | YES |
| 18395 | ins/ins | GT | D/nd1 | aa | blue dun | blue dun | YES |
| 20568 | ins/ins | GG | D/D | aa | blue dun | blue dun | YES |
| 21938 | ins/ins | GT | D/nd1 | aa | blue dun | blue dun | YES |
| 22236 | ins/del | G- | D/nd2 | aa | blue dun | blue dun | YES |
| 22689 | ins/ins | GT | D/nd1 | aa | blue dun | blue dun | YES |
| 22875 | ins/ins | GG | D/D | aa | blue dun | blue dun | YES |
| 23042 | ins/ins | GG | D/D | aa | blue dun | blue dun | YES |
| 23171 | ins/ins | GT | D/nd1 | aa | blue dun | blue dun | YES |
| 24000 | ins/del | G- | D/nd2 | Aa | blue dun | bay dun | NO |
| 25141 | ins/ins | GT | D/nd1 | aa | blue dun | blue dun | YES |
| 25512 | ins/del | G- | D/nd2 | aa | blue dun | blue dun | YES |
| 25514 | ins/ins | GG | D/D | aa | blue dun | blue dun | YES |
| 26005 | ins/ins | GT | D/nd1 | aa | blue dun | blue dun | YES |
| 26062 | ins/ins | TT | nd1/nd1 | aa | blue dun | black | NO |
| 26285 | ins/ins | GT | D/nd1 | aa | blue dun | blue dun | YES |
| 26684 | ins/ins | GG | D/D | aa | blue dun | blue dun | YES |
| 27109 | ins/ins | GG | D/D | aa | blue dun | blue dun | YES |
| 27437 | ins/ins | GT | D/nd1 | aa | blue dun | blue dun | YES |
| 27497 | ins/ins | GG | D/D | aa | blue dun | blue dun | YES |
| 28988 | ins/ins | GG | D/D | aa | blue dun | blue dun | YES |
| 28990 | ins/ins | GT | D/nd1 | aa | blue dun | blue dun | YES |
| 28991 | ins/ins | GG | D/D | aa | blue dun | blue dun | YES |
| 29527 | ins/ins | TT | nd1/nd1 | aa | blue dun | black | NO |
| 29565 | del/del | X | nd2/nd2 | aa | blue dun | black | NO |
| 29747 | ins/ins | TT | nd1/nd1 | aa | blue dun | black | NO |
| 30343 | ins/ins | TT | nd1/nd1 | aa | blue dun | black | NO |
| 30542 | ins/del | G- | D/nd2 | aa | blue dun | blue dun | YES |

| | | | | | | | |
|-------|---------|----|---------|----|----------|----------|-----|
| 30757 | ins/ins | GT | D/nd1 | aa | blue dun | blue dun | YES |
| 30957 | ins/del | G- | D/nd2 | aa | blue dun | blue dun | YES |
| 31479 | ins/ins | GT | D/nd1 | aa | blue dun | blue dun | YES |
| 31705 | ins/ins | GT | D/nd1 | aa | blue dun | blue dun | YES |
| 32416 | ins/ins | GG | D/D | aa | blue dun | blue dun | YES |
| 32555 | ins/del | T- | nd1/nd2 | aa | blue dun | black | NO |
| 32669 | ins/del | G- | D/nd2 | aa | blue dun | blue dun | YES |
| 32675 | ins/ins | GT | D/nd1 | aa | blue dun | blue dun | YES |
| 33022 | ins/ins | GT | D/nd1 | aa | blue dun | blue dun | YES |
| 33043 | ins/ins | GT | D/nd1 | aa | blue dun | blue dun | YES |
| 33066 | ins/ins | GG | D/D | aa | blue dun | blue dun | YES |
| 33483 | ins/ins | GG | D/D | aa | blue dun | blue dun | YES |
| 33651 | ins/ins | GT | D/nd1 | aa | blue dun | blue dun | YES |
| 33717 | ins/ins | GT | D/nd1 | aa | blue dun | blue dun | YES |
| 33865 | ins/ins | GT | D/nd1 | aa | blue dun | blue dun | YES |
| 34459 | ins/ins | GG | D/D | aa | blue dun | blue dun | YES |
| 34714 | ins/ins | TT | nd1/nd1 | aa | blue dun | black | NO |
| 34715 | ins/del | G- | D/nd2 | aa | blue dun | blue dun | YES |
| 34718 | ins/ins | GG | D/D | aa | blue dun | blue dun | YES |
| 34791 | ins/ins | GT | D/nd1 | aa | blue dun | blue dun | YES |
| 35048 | ins/ins | GT | D/nd1 | aa | blue dun | blue dun | YES |
| 35077 | ins/ins | TT | nd1/nd1 | aa | blue dun | black | NO |
| 35078 | ins/ins | GT | D/nd1 | aa | blue dun | blue dun | YES |
| 35809 | ins/ins | TT | nd1/nd1 | aa | blue dun | black | NO |
| 35831 | ins/ins | GT | D/nd1 | aa | blue dun | blue dun | YES |
| 36042 | ins/ins | TT | nd1/nd1 | aa | blue dun | black | NO |
| 36303 | ins/ins | GG | D/D | aa | blue dun | blue dun | YES |
| 36331 | ins/ins | TT | nd1/nd1 | aa | blue dun | black | NO |
| 36680 | ins/ins | GG | D/D | aa | blue dun | blue dun | YES |
| 37424 | ins/ins | GG | D/D | aa | blue dun | blue dun | YES |

Dark blue dun identified horses (n=78)

| | | | | | | | |
|-------|---------|----|---------|----|---------------|----------|-----|
| 10232 | ins/del | G- | D/nd2 | aa | dark blue dun | blue dun | YES |
| 14272 | ins/del | T- | nd1/nd2 | aa | dark blue dun | black | NO |
| 14279 | ins/del | T- | nd1/nd2 | aa | dark blue dun | black | NO |
| 14281 | ins/del | T- | nd1/nd2 | aa | dark blue dun | black | NO |
| 14837 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 16749 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 17081 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 18467 | ins/ins | GG | D/D | aa | dark blue dun | blue dun | YES |
| 21193 | ins/ins | GG | D/D | aa | dark blue dun | blue dun | YES |
| 21335 | ins/ins | GG | D/D | Aa | dark blue dun | bay dun | NO |
| 21336 | ins/ins | GG | D/D | aa | dark blue dun | blue dun | YES |
| 22674 | ins/del | G- | D/nd2 | aa | dark blue dun | blue dun | YES |
| 22692 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 22702 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 23165 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 23362 | ins/ins | GG | D/D | aa | dark blue dun | blue dun | YES |
| 23773 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 23861 | ins/ins | TT | nd1/nd1 | aa | dark blue dun | black | NO |
| 24350 | ins/del | T- | nd1/nd2 | aa | dark blue dun | black | NO |
| 25490 | ins/ins | GG | D/D | aa | dark blue dun | blue dun | YES |
| 25495 | ins/ins | GG | D/D | aa | dark blue dun | blue dun | YES |

| | | | | | | | |
|-------|---------|----|---------|----|---------------|----------|-----|
| 25496 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 25497 | ins/del | T- | nd1/nd2 | aa | dark blue dun | black | NO |
| 25611 | ins/del | G- | D/nd2 | aa | dark blue dun | blue dun | YES |
| 25648 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 25658 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 25829 | ins/del | G- | D/nd2 | aa | dark blue dun | blue dun | YES |
| 26201 | ins/ins | TT | nd1/nd1 | aa | dark blue dun | black | NO |
| 26329 | ins/del | T- | nd1/nd2 | aa | dark blue dun | black | NO |
| 26330 | ins/del | T- | nd1/nd2 | aa | dark blue dun | black | NO |
| 26353 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 26515 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 26516 | ins/del | G- | D/nd2 | aa | dark blue dun | blue dun | YES |
| 26572 | ins/del | G- | D/nd2 | aa | dark blue dun | blue dun | YES |
| 27040 | ins/ins | GG | D/D | aa | dark blue dun | blue dun | YES |
| 27664 | ins/ins | GG | D/D | aa | dark blue dun | blue dun | YES |
| 27981 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 28062 | ins/ins | GG | D/D | aa | dark blue dun | blue dun | YES |
| 28370 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 29943 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 30107 | ins/ins | TT | nd1/nd1 | aa | dark blue dun | black | NO |
| 30253 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 30353 | ins/ins | TT | nd1/nd1 | aa | dark blue dun | black | NO |
| 30943 | ins/ins | TT | nd1/nd1 | aa | dark blue dun | black | NO |
| 30949 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 31716 | ins/ins | GG | D/D | aa | dark blue dun | blue dun | YES |
| 32194 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 32768 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 32779 | ins/ins | GG | D/D | aa | dark blue dun | blue dun | YES |
| 33472 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 33595 | ins/ins | GG | D/D | aa | dark blue dun | blue dun | YES |
| 33630 | ins/ins | TT | nd1/nd1 | aa | dark blue dun | black | NO |
| 33650 | ins/ins | TT | nd1/nd1 | aa | dark blue dun | black | NO |
| 33653 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 33981 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 34240 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 34326 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 34650 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 34719 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 34962 | ins/del | G- | D/nd2 | aa | dark blue dun | blue dun | YES |
| 35076 | ins/ins | TT | nd1/nd1 | aa | dark blue dun | black | NO |
| 35451 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 35506 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 35998 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 36084 | ins/del | T- | nd1/nd2 | aa | dark blue dun | black | NO |
| 36270 | ins/del | G- | D/nd2 | aa | dark blue dun | blue dun | YES |
| 36304 | ins/ins | TT | nd1/nd1 | aa | dark blue dun | black | NO |
| 36679 | ins/del | G- | D/nd2 | aa | dark blue dun | blue dun | YES |
| 36712 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 36990 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 37768 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 37898 | ins/del | G- | D/nd2 | aa | dark blue dun | blue dun | YES |
| 37900 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |

| | | | | | | | |
|-------|---------|----|---------|----|---------------|----------|-----|
| 37932 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 38007 | ins/ins | TT | nd1/nd1 | aa | dark blue dun | black | NO |
| 38185 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 38369 | ins/ins | GG | D/D | aa | dark blue dun | blue dun | YES |
| 38639 | ins/ins | GG | D/D | aa | dark blue dun | blue dun | YES |

Bay identified horses (n=74)

| | | | | | | | |
|-------|---------|----|---------|----|-----|---------|-----|
| 13100 | ins/ins | GT | D/nd1 | Aa | bay | bay dun | NO |
| 13101 | ins/ins | GT | D/nd1 | Aa | bay | bay dun | NO |
| 31567 | ins/ins | TT | nd1/nd1 | AA | bay | bay | YES |
| 31589 | ins/del | G- | D/nd2 | Aa | bay | bay dun | NO |
| 31715 | ins/ins | GG | D/D | Aa | bay | bay dun | NO |
| 31724 | ins/del | T- | nd1/nd2 | Aa | bay | bay | YES |
| 31733 | ins/ins | GT | D/nd1 | Aa | bay | bay dun | NO |
| 31734 | ins/ins | GT | D/nd1 | Aa | bay | bay dun | NO |
| 31744 | ins/ins | GT | D/nd1 | AA | bay | bay dun | NO |
| 31858 | del/del | x | nd2/nd2 | Aa | bay | bay | YES |
| 31860 | ins/del | T- | nd1/nd2 | Aa | bay | bay | YES |
| 31868 | ins/ins | TT | nd1/nd1 | Aa | bay | bay | YES |
| 32021 | ins/ins | TT | nd1/nd1 | Aa | bay | bay | YES |
| 32038 | ins/ins | GT | D/nd1 | Aa | bay | bay dun | NO |
| 32043 | ins/ins | GT | D/nd1 | Aa | bay | bay dun | NO |
| 32261 | ins/ins | TT | nd1/nd1 | AA | bay | bay | YES |
| 32672 | ins/del | T- | nd1/nd2 | Aa | bay | bay | YES |
| 32736 | ins/del | G- | D/nd2 | Aa | bay | bay dun | NO |
| 32771 | ins/ins | TT | nd1/nd1 | Aa | bay | bay | YES |
| 32867 | ins/del | G- | D/nd2 | Aa | bay | bay dun | NO |
| 32919 | ins/del | T- | nd1/nd2 | Aa | bay | bay | YES |
| 32950 | ins/ins | GT | D/nd1 | Aa | bay | bay dun | NO |
| 32951 | ins/ins | GT | D/nd1 | Aa | bay | bay dun | NO |
| 32991 | ins/ins | GT | D/nd1 | Aa | bay | bay dun | NO |
| 33040 | ins/del | G- | D/nd2 | AA | bay | bay dun | NO |
| 33118 | ins/del | T- | nd1/nd2 | AA | bay | bay | YES |
| 33282 | ins/ins | GT | D/nd1 | Aa | bay | bay dun | NO |
| 33311 | ins/del | T- | nd1/nd2 | AA | bay | bay | YES |
| 33378 | ins/ins | TT | nd1/nd1 | AA | bay | bay | YES |
| 33384 | ins/del | T- | nd1/nd2 | Aa | bay | bay | YES |
| 33405 | ins/ins | GG | D/D | Aa | bay | bay dun | NO |
| 33471 | ins/ins | TT | nd1/nd1 | AA | bay | bay | YES |
| 33611 | ins/del | T- | nd1/nd2 | AA | bay | bay | YES |
| 33612 | ins/ins | TT | nd1/nd1 | Aa | bay | bay | YES |
| 33632 | ins/ins | GT | D/nd1 | AA | bay | bay dun | NO |
| 33654 | ins/ins | TT | nd1/nd1 | AA | bay | bay | YES |
| 33672 | ins/ins | GT | D/nd1 | Aa | bay | bay dun | NO |
| 33706 | ins/ins | TT | nd1/nd1 | Aa | bay | bay | YES |
| 33707 | ins/ins | GG | D/D | AA | bay | bay dun | NO |
| 33718 | ins/ins | TT | nd1/nd1 | AA | bay | bay | YES |
| 33729 | ins/del | G- | D/nd2 | Aa | bay | bay dun | NO |
| 34042 | ins/del | T- | nd1/nd2 | AA | bay | bay | YES |
| 34495 | ins/ins | TT | nd1/nd1 | AA | bay | bay | YES |
| 34514 | ins/ins | TT | nd1/nd1 | Aa | bay | bay | YES |
| 34515 | ins/del | G- | D/nd2 | Aa | bay | bay dun | NO |
| 34516 | ins/ins | TT | nd1/nd1 | Aa | bay | bay | YES |

| | | | | | | | |
|-------|---------|----|---------|----|-----|---------|-----|
| 34518 | ins/del | T- | nd1/nd2 | AA | bay | bay | YES |
| 34519 | ins/del | T- | nd1/nd2 | AA | bay | bay | YES |
| 34520 | ins/del | T- | nd1/nd2 | AA | bay | bay | YES |
| 34527 | ins/del | T- | nd1/nd2 | Aa | bay | bay | YES |
| 34571 | ins/del | G- | D/nd2 | AA | bay | bay dun | NO |
| 34675 | ins/del | T- | nd1/nd2 | AA | bay | bay | YES |
| 34699 | del/del | x | nd2/nd2 | AA | bay | bay | YES |
| 34736 | ins/del | G- | D/nd2 | Aa | bay | bay dun | NO |
| 34737 | ins/ins | GG | D/D | Aa | bay | bay dun | NO |
| 34792 | ins/ins | TT | nd1/nd1 | Aa | bay | bay | YES |
| 34822 | ins/ins | TT | nd1/nd1 | Aa | bay | bay | YES |
| 34833 | ins/ins | GG | D/D | Aa | bay | bay dun | NO |
| 34858 | ins/ins | TT | nd1/nd1 | Aa | bay | bay | YES |
| 34859 | ins/del | T- | nd1/nd2 | Aa | bay | bay | YES |
| 35014 | ins/ins | TT | nd1/nd1 | AA | bay | bay | YES |
| 35152 | ins/del | T- | nd1/nd2 | Aa | bay | bay | YES |
| 35270 | ins/ins | GT | D/nd1 | Aa | bay | bay dun | NO |
| 35333 | ins/del | T- | nd1/nd2 | Aa | bay | bay | YES |
| 35437 | ins/ins | TT | nd1/nd1 | AA | bay | bay | YES |
| 35733 | ins/ins | GT | D/nd1 | AA | bay | bay dun | NO |
| 35821 | ins/del | T- | nd1/nd2 | AA | bay | bay | YES |
| 35869 | del/del | x | nd2/nd2 | Aa | bay | bay | YES |
| 35870 | ins/ins | TT | nd1/nd1 | Aa | bay | bay | YES |
| 35871 | ins/ins | TT | nd1/nd1 | AA | bay | bay | YES |
| 35982 | ins/ins | GT | D/nd1 | AA | bay | bay dun | NO |
| 36040 | ins/ins | TT | nd1/nd1 | Aa | bay | bay | YES |
| 36159 | del/del | x | nd2/nd2 | Aa | bay | bay | YES |
| 36238 | ins/ins | TT | nd1/nd1 | Aa | bay | bay | YES |

Light bay identified horses (n=6)

| | | | | | | | |
|-------|---------|----|-------|----|-----------|---------|----|
| 34048 | ins/ins | GT | D/nd1 | AA | light bay | bay dun | NO |
| 34735 | ins/ins | GG | D/D | Aa | light bay | bay dun | NO |
| 36869 | ins/ins | GG | D/D | Aa | light bay | bay dun | NO |
| 37093 | ins/ins | GT | D/nd1 | AA | light bay | bay dun | NO |
| 38619 | ins/ins | GG | D/D | Aa | light bay | bay dun | NO |
| 46507 | ins/ins | GG | D/D | Aa | light bay | bay dun | NO |

Dark bay identified horses (n=74)

| | | | | | | | |
|-------|---------|----|---------|----|----------|----------|-----|
| 14335 | ins/del | T- | nd1/nd2 | aa | dark bay | black | NO |
| 14810 | ins/del | T- | nd1/nd2 | aa | dark bay | black | NO |
| 15415 | ins/ins | TT | nd1/nd1 | Aa | dark bay | bay | YES |
| 15416 | ins/del | T- | nd1/nd2 | aa | dark bay | black | NO |
| 15417 | ins/del | G- | D/nd2 | aa | dark bay | blue dun | NO |
| 15804 | ins/ins | TT | nd1/nd1 | Aa | dark bay | bay | YES |
| 15887 | ins/del | T- | nd1/nd2 | aa | dark bay | black | NO |
| 15996 | ins/del | T- | nd1/nd2 | Aa | dark bay | bay | YES |
| 16273 | ins/del | T- | nd1/nd2 | Aa | dark bay | bay | YES |
| 17080 | ins/ins | GG | D/D | Aa | dark bay | bay dun | NO |
| 17131 | ins/ins | TT | nd1/nd1 | Aa | dark bay | bay | YES |
| 17137 | ins/del | G- | D/nd2 | Aa | dark bay | bay dun | NO |
| 17198 | ins/del | G- | D/nd2 | Aa | dark bay | bay dun | NO |
| 17290 | ins/del | T- | nd1/nd2 | aa | dark bay | black | NO |
| 17291 | ins/ins | TT | nd1/nd1 | Aa | dark bay | bay | YES |
| 17292 | ins/ins | GT | D/nd1 | Aa | dark bay | bay dun | NO |

| | | | | | | | |
|-------|---------|----|---------|----|----------|----------|-----|
| 17386 | ins/ins | TT | nd1/nd1 | Aa | dark bay | bay | YES |
| 17419 | ins/ins | TT | nd1/nd1 | Aa | dark bay | bay | YES |
| 18468 | ins/ins | TT | nd1/nd1 | Aa | dark bay | bay | YES |
| 19039 | ins/ins | TT | nd1/nd1 | aa | dark bay | black | NO |
| 19175 | ins/ins | GT | D/nd1 | aa | dark bay | blue dun | NO |
| 19258 | del/del | X | nd2/nd2 | aa | dark bay | black | NO |
| 19284 | ins/del | T- | nd1/nd2 | Aa | dark bay | bay | YES |
| 19460 | ins/ins | TT | nd1/nd1 | Aa | dark bay | bay | YES |
| 19462 | ins/del | T- | nd1/nd2 | Aa | dark bay | bay | YES |
| 19465 | ins/ins | GT | D/nd1 | Aa | dark bay | bay dun | NO |
| 20342 | ins/del | T- | nd1/nd2 | aa | dark bay | black | NO |
| 21134 | ins/ins | GT | D/nd1 | aa | dark bay | blue dun | NO |
| 21138 | ins/ins | TT | nd1/nd1 | Aa | dark bay | bay | YES |
| 22892 | ins/del | T- | nd1/nd2 | AA | dark bay | bay | YES |
| 23189 | ins/del | T- | nd1/nd2 | Aa | dark bay | bay | YES |
| 23341 | ins/ins | GT | D/nd1 | Aa | dark bay | bay dun | NO |
| 23474 | ins/del | T- | nd1/nd2 | Aa | dark bay | bay | NO |
| 23607 | ins/ins | GT | D/nd1 | aa | dark bay | blue dun | NO |
| 23814 | ins/ins | TT | nd1/nd1 | Aa | dark bay | bay | YES |
| 24755 | ins/ins | TT | nd1/nd1 | aa | dark bay | black | NO |
| 25538 | ins/del | T- | nd1/nd2 | Aa | dark bay | bay | YES |
| 26384 | ins/del | T- | nd1/nd2 | AA | dark bay | bay | YES |
| 26517 | del/del | X | nd2/nd2 | aa | dark bay | black | NO |
| 26811 | ins/del | T- | nd1/nd2 | aa | dark bay | black | NO |
| 26887 | ins/del | G- | D/nd2 | aa | dark bay | blue dun | NO |
| 26889 | ins/ins | GT | D/nd1 | Aa | dark bay | bay dun | NO |
| 26891 | ins/ins | GG | D/D | Aa | dark bay | bay dun | NO |
| 27003 | ins/ins | TT | nd1/nd1 | Aa | dark bay | bay | YES |
| 27436 | ins/ins | TT | nd1/nd1 | aa | dark bay | black | NO |
| 27619 | ins/ins | GT | D/nd1 | Aa | dark bay | bay dun | NO |
| 29501 | ins/del | T- | nd1/nd2 | Aa | dark bay | bay | YES |
| 29583 | ins/ins | GT | D/nd1 | Aa | dark bay | bay dun | NO |
| 29880 | ins/ins | TT | nd1/nd1 | aa | dark bay | black | NO |
| 30154 | ins/del | T- | nd1/nd2 | Aa | dark bay | bay | YES |
| 31025 | ins/del | T- | nd1/nd2 | Aa | dark bay | bay | YES |
| 31109 | ins/ins | TT | nd1/nd1 | aa | dark bay | black | NO |
| 31179 | ins/ins | TT | nd1/nd1 | Aa | dark bay | bay | YES |
| 31333 | ins/del | T- | nd1/nd2 | aa | dark bay | black | NO |
| 32745 | ins/ins | TT | nd1/nd1 | aa | dark bay | black | NO |
| 33817 | ins/ins | GT | D/nd1 | Aa | dark bay | bay dun | NO |
| 33832 | ins/ins | GT | D/nd1 | Aa | dark bay | bay dun | NO |
| 33846 | ins/ins | GT | D/nd1 | Aa | dark bay | bay dun | NO |
| 34700 | ins/ins | GT | D/nd1 | Aa | dark bay | bay dun | NO |
| 35473 | ins/ins | TT | nd1/nd1 | Aa | dark bay | bay | YES |
| 35474 | ins/ins | GG | D/D | Aa | dark bay | bay dun | NO |
| 36241 | ins/ins | GT | D/nd1 | aa | dark bay | blue dun | NO |
| 36451 | ins/ins | TT | nd1/nd1 | Aa | dark bay | bay | YES |
| 37501 | ins/ins | GT | D/nd1 | aa | dark bay | blue dun | NO |
| 37921 | ins/ins | GT | D/nd1 | aa | dark bay | blue dun | NO |
| 37922 | ins/ins | TT | nd1/nd1 | Aa | dark bay | bay | YES |
| 37923 | ins/ins | TT | nd1/nd1 | aa | dark bay | black | NO |
| 38054 | ins/ins | TT | nd1/nd1 | Aa | dark bay | bay | YES |

| | | | | | | | |
|-------|---------|----|---------|----|----------|---------|-----|
| 38111 | ins/ins | GT | D/nd1 | Aa | dark bay | bay dun | NO |
| 38145 | ins/ins | TT | nd1/nd1 | Aa | dark bay | bay | YES |
| 38244 | ins/ins | TT | nd1/nd1 | Aa | dark bay | bay | YES |
| 38543 | ins/ins | TT | nd1/nd1 | Aa | dark bay | bay | YES |
| 39084 | ins/ins | TT | nd1/nd1 | Aa | dark bay | bay | YES |
| 39344 | ins/ins | GT | D/nd1 | Aa | dark bay | bay dun | NO |

Black identified horses (n=72)

| | | | | | | | |
|-------|---------|----|---------|----|-------|----------|-----|
| 29966 | ins/del | T- | nd1/nd2 | aa | black | black | YES |
| 30095 | ins/ins | TT | nd1/nd1 | aa | black | black | YES |
| 30182 | ins/del | G- | D/D | aa | black | blue dun | NO |
| 30186 | ins/del | T- | nd1/nd2 | aa | black | black | YES |
| 30342 | ins/del | T- | nd1/nd2 | aa | black | black | YES |
| 30433 | ins/del | T- | nd1/nd2 | aa | black | black | YES |
| 30434 | ins/del | T- | nd1/nd2 | aa | black | black | YES |
| 30473 | ins/ins | GT | D/nd1 | aa | black | blue dun | NO |
| 30773 | ins/ins | TT | nd1/nd1 | aa | black | black | YES |
| 31108 | ins/ins | TT | nd1/nd1 | aa | black | black | YES |
| 31230 | ins/del | T- | nd1/nd2 | aa | black | black | YES |
| 31240 | ins/ins | GT | D/nd1 | aa | black | blue dun | NO |
| 31476 | ins/ins | GT | D/nd1 | aa | black | blue dun | NO |
| 31609 | ins/del | T- | nd1/nd2 | aa | black | black | YES |
| 31822 | ins/del | T- | nd1/nd2 | aa | black | black | YES |
| 31859 | ins/ins | GT | D/nd1 | aa | black | blue dun | NO |
| 32006 | ins/ins | GT | D/nd1 | aa | black | blue dun | NO |
| 32205 | ins/del | T- | nd1/nd2 | aa | black | black | YES |
| 32207 | ins/ins | GT | D/nd1 | aa | black | blue dun | NO |
| 32486 | ins/del | T- | nd1/nd2 | aa | black | black | YES |
| 32671 | ins/del | T- | nd1/nd2 | aa | black | black | YES |
| 32673 | ins/del | T- | nd1/nd2 | aa | black | black | YES |
| 32674 | ins/ins | TT | nd1/nd1 | aa | black | black | YES |
| 32861 | ins/ins | TT | nd1/nd1 | aa | black | black | YES |
| 32866 | ins/ins | TT | nd1/nd1 | aa | black | black | YES |
| 32920 | ins/ins | TT | nd1/nd1 | Aa | black | bay | NO |
| 32942 | ins/ins | GG | D/D | aa | black | blue dun | NO |
| 32943 | ins/del | T- | nd1/nd2 | aa | black | black | YES |
| 33730 | ins/del | T- | nd1/nd2 | Aa | black | bay | NO |
| 33859 | ins/ins | GT | D/nd1 | aa | black | blue dun | NO |
| 34020 | ins/ins | GT | D/nd1 | aa | black | blue dun | NO |
| 34047 | ins/ins | TT | nd1/nd1 | aa | black | black | YES |
| 34069 | ins/ins | TT | nd1/nd1 | aa | black | black | YES |
| 34155 | ins/ins | TT | nd1/nd1 | aa | black | black | YES |
| 34648 | ins/del | T- | nd1/nd2 | aa | black | black | YES |
| 34649 | ins/ins | TT | nd1/nd1 | aa | black | black | YES |
| 34790 | ins/del | T- | nd1/nd2 | aa | black | black | YES |
| 34861 | ins/ins | TT | nd1/nd1 | aa | black | black | YES |
| 35047 | ins/del | T- | nd1/nd2 | aa | black | black | YES |
| 35072 | ins/ins | GT | D/nd1 | aa | black | blue dun | NO |
| 35488 | ins/ins | TT | nd1/nd1 | aa | black | black | YES |
| 35661 | ins/ins | TT | nd1/nd1 | aa | black | black | YES |
| 35666 | ins/del | T- | nd1/nd2 | aa | black | black | YES |
| 35668 | ins/ins | TT | nd1/nd1 | aa | black | black | YES |
| 35706 | ins/del | T- | nd1/nd2 | aa | black | black | YES |

| | | | | | | | |
|-------|---------|----|---------|----|-------|----------|-----|
| 35734 | ins/del | T- | nd1/nd2 | aa | black | black | YES |
| 35735 | ins/ins | GT | D/nd1 | aa | black | blue dun | NO |
| 35830 | ins/ins | GT | D/nd1 | aa | black | blue dun | NO |
| 35866 | ins/ins | TT | nd1/nd1 | aa | black | black | YES |
| 35930 | ins/ins | GT | D/nd1 | aa | black | blue dun | NO |
| 36004 | ins/ins | TT | nd1/nd1 | aa | black | black | YES |
| 36127 | ins/del | T- | nd1/nd2 | aa | black | black | YES |
| 36128 | ins/ins | TT | nd1/nd1 | aa | black | black | YES |
| 36458 | ins/ins | TT | nd1/nd1 | aa | black | black | YES |
| 36459 | ins/del | T- | nd1/nd2 | aa | black | black | YES |
| 36460 | ins/ins | GT | D/nd1 | aa | black | blue dun | NO |
| 36541 | ins/del | T- | nd1/nd2 | aa | black | black | YES |
| 36790 | ins/ins | GG | D/D | aa | black | blue dun | NO |
| 37474 | ins/ins | TT | nd1/nd1 | aa | black | black | YES |
| 37570 | ins/ins | TT | nd1/nd1 | aa | black | black | YES |
| 37578 | ins/del | T- | nd1/nd2 | aa | black | black | YES |
| 37606 | ins/del | T- | nd1/nd2 | aa | black | black | YES |
| 37608 | ins/ins | TT | nd1/nd1 | aa | black | black | YES |
| 37610 | ins/ins | TT | nd1/nd1 | aa | black | black | YES |
| 37790 | ins/del | T- | nd1/nd2 | aa | black | black | YES |
| 37803 | ins/ins | TT | nd1/nd1 | aa | black | black | YES |
| 37920 | ins/ins | GT | D/nd1 | aa | black | blue dun | NO |
| 38243 | ins/del | T- | nd1/nd2 | aa | black | black | YES |
| 38521 | ins/del | T- | nd1/nd2 | aa | black | black | YES |
| 38524 | ins/del | T- | nd1/nd2 | aa | black | black | YES |
| 39033 | ins/ins | TT | nd1/nd1 | aa | black | black | YES |
| 39161 | ins/ins | TT | nd1/nd1 | aa | black | black | YES |

Bay dun identified horses (n=12)

| | | | | | | | |
|-------|---------|----|-------|----|---------|---------|-----|
| 13761 | ins/del | G- | D/nd2 | Aa | bay dun | bay dun | YES |
| 14267 | ins/ins | GT | D/nd1 | Aa | bay dun | bay dun | YES |
| 15418 | ins/del | G- | D/nd2 | AA | bay dun | bay dun | YES |
| 18038 | ins/ins | GT | D/nd1 | Aa | bay dun | bay dun | YES |
| 18051 | ins/ins | GT | D/nd1 | Aa | bay dun | bay dun | YES |
| 23290 | ins/ins | GT | D/nd1 | AA | bay dun | bay dun | YES |
| 24983 | ins/ins | GT | D/nd1 | Aa | bay dun | bay dun | YES |
| 27633 | ins/ins | GG | D/D | AA | bay dun | bay dun | YES |
| 28391 | ins/ins | GT | D/nd1 | Aa | bay dun | bay dun | YES |
| 30083 | ins/ins | GG | D/D | Aa | bay dun | bay dun | YES |
| 30325 | ins/ins | GT | D/nd1 | AA | bay dun | bay dun | YES |
| 34716 | ins/ins | GT | D/nd1 | Aa | bay dun | bay dun | YES |

Randomly selected hucul horses (n=74)

| | | | | | | | |
|-------|---------|----|---------|----|-----------|----------|-----|
| 20533 | ins/ins | GG | D/D | aa | black | blue dun | NO |
| 20542 | ins/ins | TT | nd1/nd1 | aa | dark bay | black | NO |
| 20554 | ins/ins | TT | nd1/nd1 | Aa | bay | bay | YES |
| 20565 | ins/ins | GG | D/D | AA | light bay | bay dun | NO |
| 20566 | ins/ins | GG | D/D | aa | blue dun | blue dun | YES |
| 20567 | del/del | x | nd2/nd2 | Aa | bay | bay | YES |
| 20570 | del/del | x | nd2/nd2 | Aa | dark bay | bay | YES |
| 20596 | ins/del | T- | nd1/nd2 | Aa | dark bay | bay | YES |
| 20698 | ins/del | T- | nd1/nd2 | aa | bay | black | NO |
| 20699 | ins/ins | TT | nd1/nd1 | Aa | light bay | bay | YES |
| 20749 | ins/ins | TT | nd1/nd1 | aa | dark bay | black | NO |

| | | | | | | | |
|-------|---------|----|---------|----|---------------|----------|-----|
| 20793 | ins/ins | GT | D/nd1 | Aa | bay | bay dun | NO |
| 20824 | ins/ins | TT | nd1/nd1 | Aa | bay | bay | YES |
| 20825 | ins/ins | GG | D/D | Aa | blue dun | bay dun | NO |
| 20998 | ins/ins | TT | nd1/nd1 | Aa | bay | bay | YES |
| 24002 | ins/ins | TT | nd1/nd1 | Aa | bay | bay | YES |
| 24033 | ins/ins | GT | D/nd1 | aa | blue dun | blue dun | YES |
| 24034 | ins/ins | GT | D/nd1 | AA | bay | bay dun | NO |
| 24035 | ins/del | T- | nd1/nd2 | AA | bay | bay | YES |
| 24036 | ins/ins | GT | D/nd1 | AA | bay | bay dun | NO |
| 24037 | ins/ins | GT | D/nd1 | AA | bay | bay dun | NO |
| 24076 | ins/ins | GT | D/nd1 | Aa | bay | bay dun | NO |
| 24077 | ins/ins | GT | D/nd1 | aa | blue dun | blue dun | YES |
| 24088 | ins/ins | TT | nd1/nd1 | Aa | bay | bay | YES |
| 24089 | ins/del | T- | nd1/nd2 | Aa | bay | bay | YES |
| 24092 | ins/ins | GG | D/D | AA | bay | bay dun | NO |
| 24098 | ins/ins | TT | nd1/nd1 | Aa | bay | bay | YES |
| 24099 | ins/ins | TT | nd1/nd1 | Aa | bay | bay | YES |
| 24100 | ins/ins | GG | D/D | AA | bay | bay dun | NO |
| 24112 | ins/del | T- | nd1/nd2 | Aa | light bay | bay | YES |
| 24182 | del/del | x | nd2/nd2 | aa | black | black | YES |
| 24183 | ins/ins | TT | nd1/nd1 | aa | black | black | YES |
| 24205 | ins/ins | GT | D/nd1 | aa | bay | blue dun | NO |
| 24206 | ins/del | T- | nd1/nd2 | Aa | bay | bay | YES |
| 24211 | ins/del | T- | nd1/nd2 | aa | dark bay | black | NO |
| 24212 | ins/ins | TT | nd1/nd1 | aa | black | black | YES |
| 24265 | ins/ins | GT | D/nd1 | AA | bay | bay dun | NO |
| 24266 | ins/ins | TT | nd1/nd1 | Aa | bay | bay | YES |
| 24317 | ins/del | T- | nd1/nd2 | aa | dark bay | black | NO |
| 24346 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 24347 | ins/del | G- | D/nd2 | aa | dark blue dun | blue dun | YES |
| 24373 | ins/del | T- | nd1/nd2 | aa | dark bay | black | NO |
| 24393 | ins/ins | GT | D/nd1 | AA | bay | bay dun | NO |
| 24403 | ins/ins | GG | D/D | aa | bay | blue dun | NO |
| 24462 | ins/del | G- | D/nd2 | AA | bay | bay dun | NO |
| 24463 | ins/ins | TT | nd1/nd1 | Aa | bay | bay | YES |
| 24585 | ins/ins | GT | D/nd1 | Aa | bay | bay dun | NO |
| 24694 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 24714 | ins/ins | TT | nd1/nd1 | Aa | bay | bay | YES |
| 24715 | ins/del | T- | nd1/nd2 | aa | dark bay | black | NO |
| 24716 | ins/ins | GT | D/nd1 | aa | bay | blue dun | NO |
| 28670 | ins/ins | TT | nd1/nd1 | AA | bay | bay | YES |
| 28671 | ins/del | G- | D/nd2 | aa | blue dun | blue dun | YES |
| 28672 | ins/del | T- | nd1/nd2 | aa | black | black | YES |
| 28673 | ins/del | G- | D/nd2 | Aa | blue dun | bay dun | NO |
| 28674 | ins/ins | TT | nd1/nd1 | aa | black | black | YES |
| 28691 | ins/ins | TT | nd1/nd1 | Aa | bay | bay | YES |
| 28692 | ins/ins | TT | nd1/nd1 | Aa | dark bay | bay | YES |
| 28738 | ins/ins | GG | D/D | aa | blue dun | blue dun | YES |
| 28777 | ins/ins | GT | D/nd1 | aa | blue dun | blue dun | YES |
| 28784 | ins/del | T- | nd1/nd2 | AA | bay | bay | YES |
| 28938 | ins/ins | GG | D/D | Aa | light bay | bay dun | NO |
| 28962 | ins/del | T- | nd1/nd2 | aa | black | black | YES |

| | | | | | | | |
|-------|---------|----|---------|----|---------------|----------|-----|
| 28965 | ins/ins | GG | D/D | Aa | bay | bay dun | NO |
| 29008 | ins/ins | TT | nd1/nd1 | Aa | bay | bay | YES |
| 29071 | ins/ins | GG | D/D | aa | blue dun | blue dun | YES |
| 29074 | ins/ins | GT | D/nd1 | aa | blue dun | blue dun | YES |
| 29261 | ins/del | G- | D/nd2 | AA | light bay | bay dun | NO |
| 29262 | ins/del | G- | D/nd2 | AA | bay | bay dun | NO |
| 29292 | ins/del | T- | nd1/nd2 | Aa | bay | bay | YES |
| 29358 | ins/ins | GT | D/nd1 | aa | dark blue dun | blue dun | YES |
| 29359 | del/del | x | nd2/nd2 | Aa | bay | bay | YES |
| 29366 | ins/del | T- | nd1/nd2 | aa | dark bay | black | NO |
| 29390 | ins/del | T- | nd1/nd2 | aa | black | black | YES |

* color shade was not considered (no molecular test available)

PHBA – Polish Horse Breeders Association; *TBX3* – the T-box 3 gene; *ASIP* – the agouti signaling protein gene; D – dominant Dun allele (*TBX3*); nd1 – recessive non-dun 1 allele (*TBX3*); nd2 - recessive non-dun 2 allele (*TBX3*); A – dominant allele (*ASIP*); a – recessive allele (*ASIP*); ins - insertion; del - deletion; Nd1 SNP - non-dun 1 related single nucleotide polymorphism; G - guanine nucleotide (Nd1 SNP allele); T - thymine nucleotide (Nd1 SNP allele); x - lack of the fragment