**Table S2.** Prediction of subcellular localization of all lipases identified in transcriptomes of white and Andean lupin embryonic axes mapped to narrowleaf lupin (*Lupinus angustifolius* L.) transcriptome (LupAngTanjil_v1.0). The DeepLoc 2.0 software (https://services.healthtech.dtu.dk/services/DeepLoc-2.0/) with a high-quality model was used. A localization is predicted if its probability is above the threshold value (green-filled cells), and the list is sorted by the highest score for vacuolar location. Blue-filled cells indicate the highest score but below the threshold value.

| | Gene ID | Protein ID | Name | Cytoplasm | Nucleus | Extra-cellular | Cell membrane | Mitochon-drion | Plastid | Endoplasmic reticulum | **Vacuole** | Golgi apparatus | Peroxisome | Lupin species |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | **Probability threshold** | **0.4761** | **0.5014** | **0.6173** | **0.5646** | **0.6220** | **0.6395** | **0.6090** | **0.5848** | **0.6494** | **0.7364** | |
| 1. | XM_019564578.1 | XP_019420123.1 | lipase-like (LOC109330390) | 0.1249 | 0.0637 | 0.6849 | 0.2738 | 0.0537 | 0.0589 | 0.4632 | **0.7413** | 0.4305 | 0.0051 | white and Andean |
| 2. | XM_019560124.1 | XP_019415669.1 | sn1-specific diacylglycerol lipase alpha (LOC109327099) | 0.3913 | 0.62264 | 0.0683 | 0.5681 | 0.3879 | 0.1867 | 0.5224 | **0.7265** | 0.6729 | 0.0083 | white and Andean |
| 3. | XM_019578425.1 | XP_019433970.1 | triacylglycerol lipase 2-like (LOC109340705) | 0.1372 | 0.0666 | 0.5950 | 0.2569 | 0.0253 | 0.2662 | 0.4241 | **0.7121** | 0.3615 | 0.0235 | white and Andean |
| 4. | XM_019570213.1 | XP_019425758.1 | lipase-like (LOC109334430) | 0.1238 | 0.0633 | 0.7455 | 0.2846 | 0.0734 | 0.1256 | 0.4167 | **0.7070** | 0.4139 | 0.0128 | white and Andean |
| 5. | XM_019604187.1 | XP_019459732.1 | putative lipase YOR059C (LOC109359495) | 0.5098 | 0.3743 | 0.1712 | 0.3106 | 0.2847 | 0.2233 | 0.6089 | **0.6995** | 0.6764 | 0.0244 | Andean |
| 6. | XM_019580024.1 | XP_019435569.1 | putative lipase ROG1 (LOC109342050) | 0.4751 | 0.3420 | 0.1784 | 0.3196 | 0.3168 | 0.2231 | 0.5423 | **0.6956** | 0.6792 | 0.0250 | white and Andean |
| 7. | XM_019585936.1 | XP_019441481.1 | triacylglycerol lipase 1 (LOC109346399) | 0.1717 | 0.1104 | 0.3269 | 0.2610 | 0.0743 | 0.1614 | 0.6899 | **0.6813** | 0.3701 | 0.0266 | white and Andean |
| 8. | XM_019604183.1 | XP_019459728.1 | GDSL esterase/lipase At2g42990-like (LOC109359493) | 0.1070 | 0.0679 | 0.5973 | 0.2432 | 0.0105 | 0.1666 | 0.4311 | **0.6752** | 0.2104 | 0.0049 | Andean |
| 9. | XM_019565778.1 | XP_019421323.1 | GDSL esterase/lipase 7-like (LOC109331355) | 0.1720 | 0.0840 | 0.6110 | 0.2890 | 0.0218 | 0.0991 | 0.1960 | **0.6684** | 0.3304 | 0.0367 | Andean |
| 10. | XM_019578399.1 | XP_019433944.1 | GDSL esterase/lipase At2g42990-like (LOC109340682) | 0.1053 | 0.0639 | 0.6134 | 0.2579 | 0.0107 | 0.1252 | 0.4020 | **0.6563** | 0.2294 | 0.0056 | white and Andean |
| 11. | XM_019583143.1 | XP_019438688.1 | triacylglycerol lipase 2-like (LOC109344377) | 0.0996 | 0.0750 | 0.5750 | 0.2067 | 0.0248 | 0.3830 | 0.4561 | **0.6560** | 0.2174 | 0.0211 | white and Andean |
| 12. | XM_019568565.1 | XP_019424110.1 | lipase-like (LOC109333213) | 0.4079 | 0.1664 | 0.2777 | 0.1933 | 0.3235 | 0.2462 | 0.7146 | **0.6556** | 0.7723 | 0.0595 | white and Andean |
| 13. | XM_019568345.1 | XP_019423890.1 | GDSL esterase/lipase At4g01130-like (LOC109333075) | 0.1253 | 0.0987 | 0.4851 | 0.2872 | 0.0131 | 0.0569 | 0.5135 | **0.6525** | 0.2822 | 0.0057 | white |
| 14. | XM_019603339.1 | XP_019458884.1 | GDSL esterase/lipase At5g14450 (LOC109358858) | 0.1087 | 0.0985 | 0.7378 | 0.1742 | 0.0168 | 0.1280 | 0.3941 | **0.6491** | 0.1522 | 0.0055 | white and Andean |
| 15. | XM_019566645.1 | XP_019422190.1 | lipase-like (LOC109331877) | 0.4394 | 0.1665 | 0.3044 | 0.2291 | 0.3315 | 0.1615 | 0.6810 | **0.6468** | 0.7454 | 0.0281 | white and Andean |
| 16. | XM_019575987.1 | XP_019431532.1 | GDSL esterase/lipase At5g55050-like (LOC109338699) | 0.1232 | 0.0934 | 0.6040 | 0.2375 | 0.0122 | 0.0618 | 0.4224 | **0.6425** | 0.2297 | 0.0072 | white and Andean |
| 17. | XM_019593926.1 | XP_019449471.1 | GDSL esterase/lipase EXL1-like (LOC109352110) | 0.1276 | 0.0907 | 0.6176 | 0.2751 | 0.0192 | 0.0835 | 0.2316 | **0.6369** | 0.2284 | 0.0112 | white and Andean |
| 18. | XM_019590154.1 | XP_019445699.1 | GDSL esterase/lipase At5g45960-like (LOC109349384) | 0.1051 | 0.1087 | 0.5512 | 0.2341 | 0.0115 | 0.1143 | 0.3511 | **0.6302** | 0.1974 | 0.0055 | white and Andean |
| 19. | XM_019602401.1 | XP_019457946.1 | GDSL esterase/lipase At5g22810-like (LOC109358265) | 0.1301 | 0.0966 | 0.6737 | 0.2306 | 0.0147 | 0.0618 | 0.4086 | **0.6205** | 0.1480 | 0.0043 | Andean |

| # | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20. | XM_019585265.1 | XP_019440810.1 | GDSL esterase/lipase At1g71691 (LOC109345954) | 0.1187 | 0.0839 | 0.6802 | 0.2930 | 0.0111 | 0.0466 | 0.2459 | **0.6196** | 0.1618 | 0.0064 | white and Andean |
| 21. | XM_019558678.1 | XP_019414223.1 | GDSL esterase/lipase EXL3-like (LOC109326040) | 0.1235 | 0.0754 | 0.5616 | 0.2526 | 0.0118 | 0.0480 | 0.5097 | **0.6192** | 0.2622 | 0.0051 | white and Andean |
| 22. | XM_019574768.1 | XP_019430313.1 | GDSL esterase/lipase APG-like (LOC109337730) | 0.0857 | 0.0713 | 0.7163 | 0.2529 | 0.0099 | 0.1867 | 0.4058 | **0.6156** | 0.1377 | 0.0076 | Andean |
| 23. | XM_019603544.1 | XP_019459089.1 | GDSL esterase/lipase 5-like (LOC109359036) | 0.0988 | 0.0939 | 0.5668 | 0.2812 | 0.0168 | 0.0886 | 0.3382 | **0.6152** | 0.2027 | 0.0060 | white and Andean |
| 24. | XM_019573752.1 | XP_019429297.1 | GDSL esterase/lipase APG-like (LOC109336918) | 0.0973 | 0.0867 | 0.6546 | 0.2086 | 0.0087 | 0.1593 | 0.3978 | **0.6094** | 0.1387 | 0.0056 | white and Andean |
| 25. | XM_019590739.1 XM_019590740.1 | XP_019446284.1 XP_019446285.1 | lipase 3-like (LOC109349776) | 0.3293 | 0.1463 | 0.1357 | 0.2716 | 0.2600 | 0.1613 | 0.6459 | **0.6063** | 0.6241 | 0.1617 | white Andean |
| 26. | XM_019598362.1 | XP_019453907.1 | GDSL esterase/lipase At5g22810-like (LOC109355290) | 0.1068 | 0.0656 | 0.7004 | 0.1867 | 0.0132 | 0.1135 | 0.3575 | **0.6060** | 0.1499 | 0.0088 | Andean |
| 27. | XM_019580064.1 | XP_019435609.1 | GDSL esterase/lipase At5g55050-like (LOC109342072) | 0.1154 | 0.1049 | 0.5881 | 0.2344 | 0.0153 | 0.0821 | 0.3895 | **0.6032** | 0.2036 | 0.0039 | white and Andean |
| 28. | XM_019574906.1 | XP_019430451.1 | monoacylglycerol lipase-like (LOC109337835) | 0.1607 | 0.1250 | 0.4608 | 0.2318 | 0.0163 | 0.1849 | 0.2884 | **0.6006** | 0.2001 | 0.0119 | Andean |
| 29. | XM_019597714.1 | XP_019453259.1 | GDSL esterase/lipase EXL1-like (LOC109354906) | 0.1607 | 0.1250 | 0.4608 | 0.2318 | 0.0163 | 0.1849 | 0.2884 | **0.6006** | 0.2001 | 0.0119 | white and Andean |
| 30. | XM_019577313.1 | XP_019432858.1 | GDSL esterase/lipase At5g18430-like (LOC109339796) | 0.1155 | 0.1176 | 0.6524 | 0.1599 | 0.0163 | 0.2249 | 0.3856 | **0.5976** | 0.1010 | 0.0071 | white and Andean |
| 31. | XM_019584670.1 | XP_019440215.1 | GDSL esterase/lipase At5g45910-like (LOC109345584) | 0.1155 | 0.1176 | 0.6524 | 0.1599 | 0.0163 | 0.2249 | 0.3856 | **0.5976** | 0.1010 | 0.0071 | white |
| 32. | XM_019606974.1 | XP_019462519.1 | GDSL esterase/lipase At5g45670-like (LOC109361506) | 0.1745 | 0.1344 | 0.6873 | 0.2629 | 0.0219 | 0.0575 | 0.3940 | **0.5970** | 0.1796 | 0.0034 | white and Andean |
| 33. | XM_019560336.1 | XP_019415881.1 | putative lipase YDL109C (LOC109327267) | 0.5177 | 0.2787 | 0.1145 | 0.5016 | 0.2160 | 0.3013 | 0.5523 | **0.5947** | 0.4328 | 0.0594 | white and Andean |
| 34. | XM_019603098.1 | XP_019458643.1 | GDSL esterase/lipase At2g42990-like (LOC109358701) | 0.1742 | 0.1030 | 0.6854 | 0.1671 | 0.0073 | 0.1844 | 0.3105 | **0.5943** | 0.1800 | 0.0192 | white and Andean |
| 35. | XM_019568357.1 | XP_019423902.1 | GDSL esterase/lipase At4g01130-like (LOC109333086) | 0.0970 | 0.0669 | 0.6555 | 0.2113 | 0.0174 | 0.0771 | 0.3975 | **0.5898** | 0.1388 | 0.0032 | white |
| 36. | XM_019598852.1 | XP_019454397.1 | GDSL esterase/lipase At1g71250-like (LOC109355611) | 0.1263 | 0.1557 | 0.6132 | 0.2149 | 0.0178 | 0.1169 | 0.3113 | **0.5887** | 0.1588 | 0.0057 | white and Andean |
| 37. | XM_019605087.1 | XP_019460632.1 | GDSL esterase/lipase At1g71250-like (LOC109360298) | 0.1523 | 0.1259 | 0.5000 | 0.3009 | 0.0281 | 0.1422 | 0.3990 | **0.5884** | 0.3172 | 0.0111 | white and Andean |
| 38. | XM_019581118.1 | XP_019436663.1 | probable lipase C1672.09 (LOC109343013) | 0.2891 | 0.1719 | 0.1389 | 0.3496 | 0.2474 | 0.1869 | 0.6562 | **0.5852** | 0.6347 | 0.1633 | white and Andean |
| 39. | XM_019600195.1 | XP_019455740.1 | GDSL esterase/lipase At5g03610-like (LOC109356708) | 0.1017 | 0.1107 | 0.5988 | 0.2107 | 0.0183 | 0.0686 | 0.3174 | 0.5843 | 0.1577 | 0.0066 | white and Andean |
| 40. | XM_019609193.1 | XP_019464738.1 | GDSL esterase/lipase At3g48460-like (LOC109363031) | 0.1021 | 0.1036 | 0.6847 | 0.2375 | 0.0247 | 0.2707 | 0.3062 | 0.5831 | 0.1404 | 0.0044 | Andean |
| 41. | XM_019568366.1 | XP_019423911.1 | GDSL esterase/lipase At4g01130-like (LOC109333086) | 0.0943 | 0.0634 | 0.6706 | 0.2144 | 0.0162 | 0.0696 | 0.3955 | 0.5824 | 0.1360 | 0.0033 | Andean |
| 42. | XM_019561187.1 | XP_019416732.1 | GDSL esterase/lipase EXL3-like (LOC109327976) | 0.1095 | 0.0750 | 0.5532 | 0.2849 | 0.0167 | 0.0647 | 0.3631 | 0.5803 | 0.1897 | 0.0023 | Andean |

| # | XM accession | XP accession | Description | | | | | | | | | | | Category |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 43. | XM_019597715.1 | XP_019453260.1 | GDSL esterase/lipase EXL3-like (LOC109354907) | 0.0996 | 0.0752 | 0.6073 | 0.2578 | 0.0144 | 0.1184 | 0.2916 | 0.5787 | 0.1906 | 0.0041 | white and Andean |
| 44. | XM_019570663.1 | XP_019426208.1 | putative lipase C4A8.10 (LOC109334740) | 0.4149 | 0.4287 | 0.1440 | 0.2787 | 0.2813 | 0.2795 | 0.4887 | 0.5761 | 0.4958 | 0.0648 | Andean |
| 45. | XM_019563836.1 | XP_019419381.1 | GDSL esterase/lipase At1g29660-like (LOC109329930) | 0.1054 | 0.0582 | 0.6445 | 0.2074 | 0.0214 | 0.0656 | 0.3505 | 0.5760 | 0.1286 | 0.0042 | white |
| 46. | XM_019568564.1 | XP_019424109.1 | lipase-like (LOC109333212) | 0.3310 | 0.1018 | 0.4708 | 0.1879 | 0.2300 | 0.1466 | 0.6539 | 0.5750 | 0.6744 | 0.0199 | white and Andean |
| 47. | XM_019589143.1 | XP_019444688.1 | GDSL esterase/lipase At5g45670-like (LOC109348632) | 0.1504 | 0.1431 | 0.6795 | 0.2890 | 0.0237 | 0.1012 | 0.3445 | 0.5744 | 0.1579 | 0.0038 | white and Andean |
| 48. | XM_019597340.1 | XP_019452885.1 | GDSL esterase/lipase At3g27950 (LOC109354679) | 0.0796 | 0.0833 | 0.5909 | 0.1808 | 0.0236 | 0.1612 | 0.2695 | 0.5741 | 0.1660 | 0.0150 | white and Andean |
| 49. | XM_019583157.1 | XP_019438702.1 | GDSL esterase/lipase At5g14450-like (LOC109344386) | 0.0945 | 0.1334 | 0.6650 | 0.2472 | 0.0320 | 0.0588 | 0.2669 | 0.5741 | 0.1726 | 0.0042 | Andean |
| 50. | XM_019570638.1 | XP_019426183.1 | GDSL esterase/lipase At1g28600-like (LOC109334728) | 0.1246 | 0.0831 | 0.6486 | 0.2022 | 0.0138 | 0.1643 | 0.4517 | 0.5738 | 0.1223 | 0.0127 | white and Andean |
| 51. | XM_019580927.1 | XP_019436472.1 | GDSL esterase/lipase APG-like (LOC109342884) | 0.0842 | 0.0747 | 0.7277 | 0.2590 | 0.0127 | 0.2574 | 0.3531 | 0.5729 | 0.1089 | 0.0048 | white and Andean |
| 52. | XM_019563456.1 | XP_019419001.1 | GDSL esterase/lipase LTL1-like (LOC109329702) | 0.1635 | 0.0912 | 0.5201 | 0.2274 | 0.0113 | 0.1889 | 0.4198 | 0.5728 | 0.1683 | 0.0061 | white and Andean |
| 53. | XM_019603110.1 | XP_019458655.1 | lipase member M-like (LOC109358709) | 0.2857 | 0.1649 | 0.1258 | 0.3495 | 0.2463 | 0.1516 | 0.6490 | 0.5707 | 0.6287 | 0.1344 | white and Andean |
| 54. | XM_019578333.1 | XP_019433878.1 | GDSL esterase/lipase EXL1-like (LOC109340609) | 0.0971 | 0.0592 | 0.7441 | 0.2190 | 0.0152 | 0.2111 | 0.2132 | 0.5600 | 0.1469 | 0.0080 | Andean |
| 55. | XM_019574983.1 | XP_019430528.1 | GDSL esterase/lipase At1g29660-like (LOC109337900) | 0.0916 | 0.0648 | 0.7231 | 0.1839 | 0.0166 | 0.0765 | 0.3781 | 0.5547 | 0.1296 | 0.0048 | white |
| 56. | XM_019605956.1 | XP_019461501.1 | GDSL esterase/lipase At2g30310-like (LOC109360817) | 0.1674 | 0.1461 | 0.5968 | 0.2081 | 0.0151 | 0.1058 | 0.3789 | 0.5524 | 0.1707 | 0.0036 | white |
| 57. | XM_019584665.1 | XP_019440210.1 | GDSL esterase/lipase At5g45910-like (LOC109345581) | 0.0940 | 0.0851 | 0.7228 | 0.1867 | 0.0200 | 0.1590 | 0.3395 | 0.5497 | 0.1130 | 0.0033 | Andean |
| 58. | XM_019601223.1 | XP_019456768.1 | GDSL esterase/lipase At2g04570-like (LOC109357323) | 0.1219 | 0.1127 | 0.4744 | 0.2163 | 0.0141 | 0.3469 | 0.2758 | 0.5474 | 0.1231 | 0.0117 | white and Andean |
| 59. | XM_019586660.1 | XP_019442205.1 | GDSL esterase/lipase At3g27950-like (LOC109346920) | 0.0869 | 0.0794 | 0.7865 | 0.1949 | 0.0311 | 0.1124 | 0.3608 | 0.5451 | 0.1637 | 0.0039 | white and Andean |
| 60. | XM_019606453.1 | XP_019461998.1 | GDSL esterase/lipase At3g26430 (LOC109361126) | 0.1117 | 0.0898 | 0.5876 | 0.2296 | 0.0192 | 0.3077 | 0.4904 | 0.5440 | 0.2408 | 0.0054 | white and Andean |
| 61. | XM_019604256.1 | XP_019459801.1 | GDSL esterase/lipase At5g03610-like (LOC109359550) | 0.1418 | 0.0968 | 0.5890 | 0.1631 | 0.0151 | 0.0774 | 0.4261 | 0.5363 | 0.1678 | 0.0047 | Andean |
| 62. | XM_019578335.1 | XP_019433880.1 | GDSL esterase/lipase EXL1-like (LOC109340612) | 0.1180 | 0.0939 | 0.5863 | 0.2083 | 0.0144 | 0.1856 | 0.2300 | 0.5289 | 0.1240 | 0.0083 | white and Andean |
| 63. | XM_019606343.1 | XP_019461888.1 | GDSL esterase/lipase At5g37690 (LOC109361044) | 0.1240 | 0.1090 | 0.7246 | 0.1863 | 0.0215 | 0.1348 | 0.3559 | 0.5274 | 0.1168 | 0.0089 | white and Andean |
| 64. | XM_019569235.1 | XP_019424780.1 | GDSL esterase/lipase At1g33811 (LOC109333690) | 0.1111 | 0.0690 | 0.7143 | 0.2712 | 0.0157 | 0.1500 | 0.2717 | 0.5252 | 0.1583 | 0.0084 | white and Andean |
| 65. | XM_019559601.1 | XP_019415146.1 | monoglyceride lipase-like (LOC109326794) | 0.3360 | 0.2818 | 0.0771 | 0.2577 | 0.2003 | 0.3708 | 0.8008 | 0.5237 | 0.5365 | 0.2093 | white and Andean |
| 66. | XM_019563839.1 | XP_019419384.1 | GDSL esterase/lipase At1g29670-like (LOC109329931) | 0.0950 | 0.1040 | 0.7550 | 0.2422 | 0.0134 | 0.0754 | 0.2375 | 0.5182 | 0.0928 | 0.0034 | white and Andean |

| # | XM | XP | Description | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 67. | XM_019608640.1 | XP_019464185.1 | lipase-like PAD4 (LOC109362676) | 0.6540 | 0.4268 | 0.1075 | 0.1444 | 0.2189 | 0.2926 | 0.2933 | 0.5170 | 0.4645 | 0.1761 | white and Andean |
| 68. | XM_019587276.1 | XP_019442821.1 | GDSL esterase/lipase At5g33370-like (LOC109347427) | 0.0969 | 0.0888 | 0.6887 | 0.2467 | 0.0172 | 0.1158 | 0.3305 | 0.5127 | 0.1916 | 0.0028 | white |
| 69. | XM_019568009.1 | XP_019423554.1 | GDSL esterase/lipase 5-like (LOC109332879) | 0.1058 | 0.0961 | 0.5731 | 0.1957 | 0.0183 | 0.1768 | 0.3594 | 0.5100 | 0.0980 | 0.0070 | white and Andean |
| 70. | XM_019566899.1 | XP_019422444.1 | GDSL esterase/lipase At1g09390-like (LOC109332072) | 0.1223 | 0.0996 | 0.5903 | 0.2005 | 0.0111 | 0.1700 | 0.3801 | 0.5094 | 0.1165 | 0.0091 | white |
| 71. | XM_019566904.1 | XP_019422449.1 | GDSL esterase/lipase At1g09390-like (LOC109332072) | 0.1223 | 0.0996 | 0.5903 | 0.2005 | 0.0111 | 0.1700 | 0.3801 | 0.5094 | 0.1165 | 0.0091 | Andean |
| 72 | XM_019592904.1 | XP_019448449.1 | GDSL esterase/lipase At5g33370-like (LOC109351399) | 0.1171 | 0.0696 | 0.6058 | 0.2136 | 0.0131 | 0.2282 | 0.4601 | 0.4984 | 0.1644 | 0.0058 | white and Andean |
| 73. | XM_019578371.1 | XP_019433916.1 | GDSL esterase/lipase At1g71250-like (LOC109340651) | 0.1521 | 0.1136 | 0.5826 | 0.2642 | 0.0148 | 0.0553 | 0.3346 | 0.4933 | 0.1493 | 0.0100 | Andean |
| 74. | XM_019558709.1 | XP_019414254.1 | lipase-like PAD4 (LOC109326062) | 0.6890 | 0.4740 | 0.1101 | 0.0940 | 0.2544 | 0.1910 | 0.3015 | 0.4893 | 0.4663 | 0.3869 | white and Andean |
| 75. | XM_019586935.1 | XP_019442480.1 | GDSL esterase/lipase At5g03610-like (LOC109347229) | 0.0834 | 0.0957 | 0.6297 | 0.1565 | 0.0190 | 0.1696 | 0.3619 | 0.4884 | 0.0978 | 0.0033 | white and Andean |
| 76. | XM_019562443.1 | XP_019417988.1 | GDSL esterase/lipase At1g54790 (LOC109328837) | 0.1160 | 0.0756 | 0.6198 | 0.2009 | 0.0191 | 0.3269 | 0.3690 | 0.4841 | 0.1092 | 0.0044 | white and Andean |
| 77. | XM_019563457.1 | XP_019419002.1 | GDSL esterase/lipase At5g33370-like (LOC109329703) | 0.1212 | 0.0639 | 0.6826 | 0.3159 | 0.0145 | 0.0848 | 0.3368 | 0.4791 | 0.1752 | 0.0021 | white and Andean |
| 78. | XM_019562395.1 | XP_019417940.1 | monoacylglycerol lipase-like (LOC109328777) | 0.3415 | 0.2848 | 0.1194 | 0.3226 | 0.2189 | 0.4705 | 0.7592 | 0.4786 | 0.5001 | 0.2768 | white and Andean |
| 79. | XM_019567499.1 | XP_019423044.1 | GDSL esterase/lipase At2g03980-like (LOC109332513) | 0.0952 | 0.1053 | 0.6235 | 0.2393 | 0.0112 | 0.2286 | 0.2003 | 0.4726 | 0.1207 | 0.0102 | Andean |
| 80. | XM_019568922.1 | XP_019424467.1 | GDSL esterase/lipase At2g04570-like (LOC109333435) | 0.0952 | 0.1053 | 0.6235 | 0.2393 | 0.0112 | 0.2286 | 0.2003 | 0.4726 | 0.1207 | 0.0102 | white and Andean |
| 81. | XM_019570437.1 | XP_019425982.1 | GDSL esterase/lipase At5g45910-like (LOC109334589) | 0.0955 | 0.0837 | 0.7125 | 0.2368 | 0.0223 | 0.3743 | 0.2581 | 0.4710 | 0.0976 | 0.0176 | Andean |
| 82. | XM_019608191.1 | XP_019463736.1 | GDSL esterase/lipase At3g48460-like (LOC109362412) | 0.0960 | 0.1170 | 0.6303 | 0.1987 | 0.0202 | 0.2842 | 0.2958 | 0.4702 | 0.1098 | 0.0046 | white and Andean |
| 83. | XM_019607055.1 | XP_019462600.1 | monoacylglycerol lipase ABHD6-like (LOC109361563) | 0.4359 | 0.2383 | 0.0981 | 0.5731 | 0.4030 | 0.2756 | 0.7035 | 0.4679 | 0.2393 | 0.0461 | white |
| 84. | XM_019565795.1 | XP_019421340.1 | monoacylglycerol lipase ABHD6-like (LOC109331365) | 0.3903 | 0.2329 | 0.0651 | 0.4935 | 0.5056 | 0.2111 | 0.7683 | 0.4591 | 0.3554 | 0.0282 | white and Andean |
| 85. | XM_019606808.1 | XP_019462353.1 | GDSL esterase/lipase 1-like (LOC109361345) | 0.1288 | 0.1528 | 0.6377 | 0.1256 | 0.0186 | 0.1331 | 0.3325 | 0.4582 | 0.1411 | 0.0060 | Andean |
| 86. | XM_019566757.1 | XP_019422302.1 | GDSL esterase/lipase At4g10955-like (LOC109331945) | 0.6453 | 0.3422 | 0.1508 | 0.1146 | 0.2286 | 0.4379 | 0.4634 | 0.4500 | 0.6277 | 0.0748 | white and Andean |
| 87. | XM_019589079.1 | XP_019444624.1 | GDSL esterase/lipase At4g10955-like (LOC109348588) | 0.6173 | 0.3836 | 0.1167 | 0.1469 | 0.2232 | 0.3508 | 0.4190 | 0.4470 | 0.5623 | 0.0355 | white and Andean |
| 88. | XM_019571265.1 | XP_019426810.1 | GDSL esterase/lipase At5g03610-like (LOC109335167) | 0.0992 | 0.1335 | 0.5656 | 0.1813 | 0.0178 | 0.1301 | 0.2458 | 0.4241 | 0.0970 | 0.0047 | white and Andean |
| 89. | XM_019572916.1 | XP_019428461.1 | GDSL esterase/lipase At5g33370-like (LOC109336364) | 0.1295 | 0.0960 | 0.6964 | 0.3444 | 0.0181 | 0.1166 | 0.3356 | 0.4167 | 0.1457 | 0.0035 | Andean |

| # | XM | XP | Description | | | | | | | | | | | Group |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 90. | XM_019567821.1 | XP_019423366.1 | GDSL esterase/lipase At4g10955-like (LOC109332786) | 0.5925 | 0.3438 | 0.1492 | 0.1257 | 0.2443 | 0.4819 | 0.4027 | 0.4083 | 0.5844 | 0.0771 | Andean |
| 91. | XM_019606596.1 | XP_019462141.1 | monoacylglycerol lipase ABHD6-like (LOC109361216) | 0.3975 | 0.2823 | 0.1087 | 0.5710 | 0.3189 | 0.2704 | 0.5286 | 0.4081 | 0.1002 | 0.0368 | white and Andean |
| 92. | XM_019586384.1 | XP_019441929.1 | sn1-specific diacylglycerol lipase beta (LOC109346684) | 0.0759 | 0.0931 | 0.0770 | 0.2424 | 0.6519 | 0.7260 | 0.2014 | 0.3905 | 0.3564 | 0.2010 | white and Andean |
| 93. | XM_019601877.1 | XP_019457422.1 | GDSL esterase/lipase 1-like (LOC109357820) | 0.1064 | 0.1264 | 0.6373 | 0.1709 | 0.0153 | 0.1646 | 0.2641 | 0.3902 | 0.1130 | 0.0149 | white and Andean |
| 94. | XM_019563453.1 | XP_019418998.1 | GDSL esterase/lipase At5g33370-like (LOC109329700) | 0.1492 | 0.1473 | 0.5994 | 0.2676 | 0.0217 | 0.2312 | 0.4421 | 0.3897 | 0.1098 | 0.0049 | Andean |
| 95. | XM_019563390.1 | XP_019418935.1 | monoacylglycerol lipase ABHD6-like (LOC109329668) | 0.3399 | 0.2284 | 0.0783 | 0.4049 | 0.3401 | 0.4195 | 0.5025 | 0.3888 | 0.1716 | 0.0847 | white and Andean |
| 96. | XM_019597471.1 | XP_019453016.1 | GDSL esterase/lipase At5g33370-like (LOC109354764) | 0.0854 | 0.0605 | 0.7395 | 0.2656 | 0.0193 | 0.2554 | 0.3080 | 0.3847 | 0.1172 | 0.0044 | white and Andean |
| 97. | XM_019607054.1 | XP_019462599.1 | monoacylglycerol lipase ABHD6-like (LOC109361563) | 0.4174 | 0.2551 | 0.0836 | 0.4160 | 0.3903 | 0.1917 | 0.7951 | 0.3801 | 0.1429 | 0.0853 | Andean |
| 98. | XM_019579595.1 | XP_019435140.1 | GDSL esterase/lipase At4g10955-like (LOC109341649) | 0.5077 | 0.2582 | 0.1841 | 0.2128 | 0.2294 | 0.3736 | 0.2953 | 0.3464 | 0.4444 | 0.1770 | white and Andean |
| 99. | XM_019565794.1 | XP_019421339.1 | monoacylglycerol lipase ABHD6-like (LOC109331364) | 0.3716 | 0.2489 | 0.0934 | 0.4767 | 0.4662 | 0.5820 | 0.6299 | 0.3395 | 0.1711 | 0.1070 | white and Andean |
| 100. | XM_019585183.1 | XP_019440728.1 | GDSL esterase/lipase At4g10955 (LOC109345911) | 0.4734 | 0.2726 | 0.1215 | 0.2042 | 0.2266 | 0.3683 | 0.3545 | 0.3285 | 0.4201 | 0.0971 | white and Andean |
| 101. | XM_019599596.1 | XP_019455141.1 | GDSL esterase/lipase At2g03980-like (LOC109356271) | 0.1245 | 0.1003 | 0.7277 | 0.2006 | 0.0301 | 0.1368 | 0.3421 | 0.2715 | 0.0507 | 0.0079 | Andean |
| 102. | XM_019558759.1 | XP_019414304.1 | GDSL esterase/lipase CPRD49-like (LOC109326099) | 0.6908 | 0.5051 | 0.1221 | 0.1211 | 0.1783 | 0.1433 | 0.2359 | 0.2675 | 0.1444 | 0.3008 | white |
| 103. | XM_019558758.1 | XP_019414303.1 | GDSL esterase/lipase CPRD49-like (LOC109326099) | 0.6889 | 0.5096 | 0.1191 | 0.1184 | 0.1744 | 0.1449 | 0.2349 | 0.2646 | 0.1442 | 0.3109 | Andean |
| 104. | XM_019594325.1 | XP_019449870.1 | GDSL esterase/lipase CPRD49-like (LOC109352366) | 0.6964 | 0.5492 | 0.0951 | 0.1310 | 0.1652 | 0.1485 | 0.2168 | 0.2382 | 0.1442 | 0.2539 | white and Andean |
| 105. | XM_019574165.1 | XP_019429710.1 | triacylglycerol lipase SDP1-like (LOC109337240) | 0.1951 | 0.2585 | 0.0451 | 0.2253 | 0.4544 | 0.1814 | 0.6865 | 0.2260 | 0.2823 | 0.6608 | white and Andean |
| 106. | XM_019579446.1 | XP_019434991.1 | triacylglycerol lipase SDP1-like (LOC109341517) | 0.1951 | 0.2585 | 0.0451 | 0.2253 | 0.4544 | 0.1814 | 0.6865 | 0.2260 | 0.2823 | 0.6608 | white and Andean |
| 107. | XM_019577317.1 | XP_019432862.1 | GDSL esterase/lipase At5g33370-like (LOC109339800) | 0.2068 | 0.2479 | 0.6369 | 0.5579 | 0.0579 | 0.1783 | 0.3797 | 0.2227 | 0.0927 | 0.1761 | Andean |
| 108. | XM_019607168.1 | XP_019462713.1 | GDSL esterase/lipase CPRD49-like (LOC109361650) | 0.6620 | 0.5318 | 0.0968 | 0.1067 | 0.1371 | 0.1764 | 0.1674 | 0.2175 | 0.1858 | 0.1671 | Andean |
| 109. | XM_019588469.1 | XP_019444014.1 | triacylglycerol lipase SDP1-like (LOC109348192) | 0.2458 | 0.2684 | 0.0505 | 0.2260 | 0.5387 | 0.1973 | 0.6460 | 0.2162 | 0.3208 | 0.7435 | white and Andean |
| 110. | XM_019567818.1 | XP_019423363.1 | GDSL esterase/lipase At4g10955-like (LOC109332786) | 0.4008 | 0.2823 | 0.1915 | 0.1154 | 0.2627 | 0.7597 | 0.3221 | 0.2150 | 0.2084 | 0.0347 | white and Andean |
| 111. | XM_019570500.1 | XP_019426045.1 | GDSL esterase/lipase At5g45920-like (LOC109334624) | 0.6921 | 0.5050 | 0.0627 | 0.0863 | 0.1546 | 0.0840 | 0.1058 | 0.1973 | 0.1809 | 0.2307 | white and Andean |
| 112. | XM_019560520.1 | XP_019416065.1 | GDSL esterase/lipase At5g45920-like (LOC109327394) | 0.5612 | 0.4240 | 0.1136 | 0.0879 | 0.2198 | 0.2114 | 0.1109 | 0.1477 | 0.0859 | 0.4696 | white and Andean |

| # | XM accession | XP accession | Description | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 113. | XM_019595094.1 | XP_019450639.1 | GDSL esterase/lipase At5g03810-like (LOC109352908) | 0.3702 | 0.3767 | 0.7247 | 0.3323 | 0.0632 | 0.2770 | 0.2085 | 0.1351 | 0.1329 | 0.1174 | white and Andean |
| 114. | XM_019608481.1 | XP_019464026.1 | GDSL esterase/lipase At5g62930 (LOC109362582) | 0.6981 | 0.4529 | 0.1087 | 0.0922 | 0.1483 | 0.1192 | 0.1605 | 0.1242 | 0.1433 | 0.1921 | white and Andean |
| 115. | XM_019608274.1 | XP_019463819.1 | putative lipase C4A8.10 (LOC109362465) | 0.1751 | 0.1502 | 0.0295 | 0.1669 | 0.2054 | 0.9681 | 0.1051 | 0.0980 | 0.0996 | 0.0728 | white and Andean |
| 116. | XM_019557749.1 | XP_019413294.1 | GDSL esterase/lipase CPRD49-like (LOC109325402) | 0.1697 | 0.1117 | 0.0440 | 0.0799 | 0.0824 | 0.9920 | 0.0529 | 0.0749 | 0.0458 | 0.0459 | Andean |
| 117. | XM_019599793.1 | XP_019455338.1 | GDSL esterase/lipase 7-like (LOC109356478) | 0.4547 | 0.3306 | 0.4613 | 0.1430 | 0.1448 | 0.2274 | 0.2467 | 0.0702 | 0.0422 | 0.0354 | Andean |
| 118. | XM_019557757.1 | XP_019413302.1 | GDSL esterase/lipase At2g38180-like (LOC109325407) | 0.1750 | 0.1404 | 0.0257 | 0.0748 | 0.1058 | 0.9880 | 0.0380 | 0.0690 | 0.0313 | 0.0641 | white and Andean |
| 119. | XM_019557744.1 | XP_019413289.1 | GDSL esterase/lipase CPRD49-like (LOC109325402) | 0.1656 | 0.1211 | 0.0489 | 0.0937 | 0.0977 | 0.9915 | 0.0516 | 0.0658 | 0.0382 | 0.0566 | white |
| 120. | XM_019589071.1 | XP_019444616.1 | putative esterase/lipase HI_0193 (LOC109348582) | 0.3137 | 0.1835 | 0.0341 | 0.0444 | 0.7467 | 0.5979 | 0.0989 | 0.0657 | 0.0492 | 0.5351 | Andean |
| 121. | XM_019599598.1 | XP_019455143.1 | GDSL esterase/lipase At5g55050-like (LOC109356274) | 0.5490 | 0.2248 | 0.3717 | 0.1755 | 0.0808 | 0.1094 | 0.3537 | 0.0529 | 0.0309 | 0.0636 | Andean |
| 122. | XM_019589069.1 | XP_019444614.1 | putative esterase/lipase HI_0193 (LOC109348582) | 0.1040 | 0.0976 | 0.0145 | 0.0533 | 0.2134 | 0.9927 | 0.0246 | 0.0428 | 0.0643 | 0.0855 | white and Andean |