**Supplementary table S3. The top 10 genes that contribute most positively (Severe asthma class) to the model according to the logistic regression model**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Positive** | | | | | | | | | |
| **class** | **gene** | **8117018** | **7908861** | **7967028** | **7928489** | **8052581** | **8154211** | **7968295** | **8031152** | **8055639** | **7975453** |
| Healthy control | GSM665386 | 4.68 | 6.95 | 6.01 | 6.79 | 4.34 | 7.01 | 3.88 | 3.96 | 5.72 | 3.73 |
| Healthy control | GSM665387 | 4.03 | 6.16 | 6.20 | 6.86 | 4.14 | 6.44 | 3.32 | 2.77 | 5.82 | 4.00 |
| Healthy control | GSM665388 | 5.42 | 8.51 | 6.21 | 7.45 | 3.54 | 7.04 | 4.40 | 5.10 | 6.92 | 6.02 |
| Healthy control | GSM665389 | 4.49 | 6.95 | 6.86 | 6.92 | 3.71 | 5.96 | 3.71 | 3.99 | 6.30 | 4.78 |
| Healthy control | GSM665390 | 3.38 | 5.77 | 6.23 | 7.28 | 5.96 | 6.14 | 3.64 | 5.72 | 5.76 | 4.06 |
| Healthy control | GSM665391 | 5.50 | 7.04 | 7.04 | 7.16 | 3.07 | 6.61 | 3.84 | 4.33 | 6.45 | 4.82 |
| Healthy control | GSM665392 | 4.83 | 6.87 | 6.44 | 7.09 | 4.99 | 7.07 | 3.80 | 3.42 | 6.67 | 5.35 |
| Healthy control | GSM665393 | 4.72 | 7.42 | 5.45 | 7.04 | 2.80 | 6.49 | 3.73 | 5.58 | 6.50 | 4.21 |
| Healthy control | GSM665394 | 3.79 | 6.39 | 6.08 | 6.87 | 4.69 | 5.53 | 3.32 | 4.41 | 6.40 | 3.84 |
| Healthy control | GSM665395 | 4.59 | 7.51 | 5.78 | 6.77 | 3.45 | 6.97 | 3.60 | 5.84 | 6.39 | 4.58 |
| Healthy control | GSM665396 | 4.73 | 6.75 | 6.08 | 6.84 | 3.89 | 4.98 | 3.45 | 5.26 | 6.80 | 4.69 |
| Healthy control | GSM665397 | 5.92 | 7.35 | 7.62 | 7.52 | 3.96 | 5.11 | 4.09 | 5.35 | 6.59 | 4.44 |
| Healthy control | GSM665398 | 4.39 | 6.84 | 6.41 | 7.05 | 4.12 | 5.98 | 3.58 | 4.13 | 6.07 | 3.58 |
| Healthy control | GSM665399 | 4.93 | 7.63 | 6.39 | 7.27 | 3.17 | 5.79 | 3.91 | 5.67 | 7.00 | 4.91 |
| Healthy control | GSM665400 | 5.59 | 6.90 | 6.26 | 7.69 | 4.39 | 7.16 | 4.18 | 5.12 | 6.14 | 4.14 |
| Healthy control | GSM665401 | 3.62 | 7.21 | 8.48 | 7.04 | 5.52 | 5.55 | 3.38 | 5.10 | 6.10 | 4.34 |
| Healthy control | GSM665402 | 5.54 | 7.36 | 6.14 | 7.10 | 3.93 | 6.86 | 3.92 | 5.44 | 6.45 | 4.22 |
| Healthy control | GSM665403 | 3.82 | 7.17 | 6.19 | 6.64 | 3.72 | 6.64 | 3.25 | 3.78 | 6.08 | 4.31 |
| Severe asthma | GSM665423 | 5.92 | 8.19 | 8.26 | 8.26 | 5.43 | 5.23 | 4.28 | 5.00 | 7.03 | 5.32 |
| Severe asthma | GSM665424 | 6.09 | 8.07 | 7.98 | 8.06 | 5.23 | 7.08 | 4.49 | 4.45 | 6.68 | 4.77 |
| Severe asthma | GSM665425 | 6.57 | 8.36 | 8.80 | 8.20 | 4.33 | 6.66 | 5.19 | 5.65 | 7.00 | 5.95 |
| Severe asthma | GSM665426 | 6.52 | 7.71 | 7.35 | 7.84 | 4.49 | 6.67 | 4.72 | 4.10 | 7.29 | 5.25 |
| Severe asthma | GSM665427 | 6.34 | 9.20 | 8.38 | 8.51 | 4.78 | 8.10 | 5.13 | 5.00 | 7.17 | 6.31 |
| Severe asthma | GSM665428 | 6.24 | 8.41 | 8.29 | 8.26 | 4.84 | 7.43 | 4.60 | 6.44 | 7.12 | 6.14 |
| Severe asthma | GSM665429 | 5.84 | 8.11 | 7.23 | 8.21 | 6.60 | 7.90 | 4.40 | 4.81 | 7.86 | 5.29 |
| Severe asthma | GSM665430 | 7.64 | 9.05 | 8.28 | 8.94 | 3.89 | 6.89 | 6.00 | 5.91 | 7.95 | 6.39 |
| Severe asthma | GSM665431 | 5.51 | 8.88 | 5.92 | 7.52 | 4.47 | 7.40 | 4.17 | 5.84 | 6.75 | 4.75 |
| Severe asthma | GSM665432 | 7.16 | 8.81 | 7.98 | 8.90 | 3.84 | 7.77 | 5.35 | 4.43 | 7.86 | 5.65 |
| Severe asthma | GSM665433 | 6.00 | 7.55 | 6.71 | 8.57 | 4.16 | 6.67 | 5.03 | 5.39 | 7.09 | 5.56 |
| Severe asthma | GSM665434 | 6.00 | 7.67 | 7.85 | 8.23 | 5.04 | 6.89 | 5.04 | 5.79 | 7.39 | 4.74 |
| Severe asthma | GSM665435 | 6.06 | 8.34 | 6.64 | 7.86 | 3.85 | 6.80 | 4.44 | 4.84 | 7.78 | 5.54 |
| Severe asthma | GSM665436 | 5.87 | 8.56 | 7.66 | 7.71 | 4.90 | 7.75 | 4.46 | 5.48 | 7.31 | 4.79 |
| Severe asthma | GSM665437 | 7.70 | 9.19 | 9.48 | 9.51 | 4.71 | 6.15 | 6.29 | 2.55 | 8.13 | 7.08 |
| Severe asthma | GSM665438 | 6.46 | 8.85 | 7.88 | 7.97 | 3.97 | 5.73 | 4.59 | 5.14 | 6.90 | 5.69 |
| Severe asthma | GSM665439 | 6.40 | 7.50 | 6.69 | 8.02 | 3.51 | 5.99 | 5.58 | 5.33 | 7.78 | 5.17 |