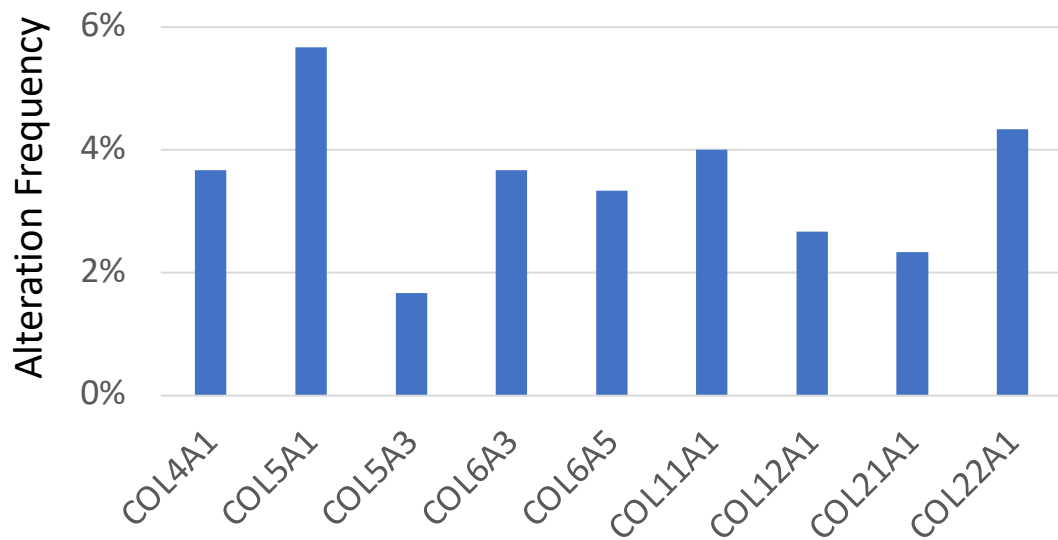


Figure S1A

ACRG
Targeted Sequencing



Pfizer/Hong Kong
Whole Genome
Sequencing

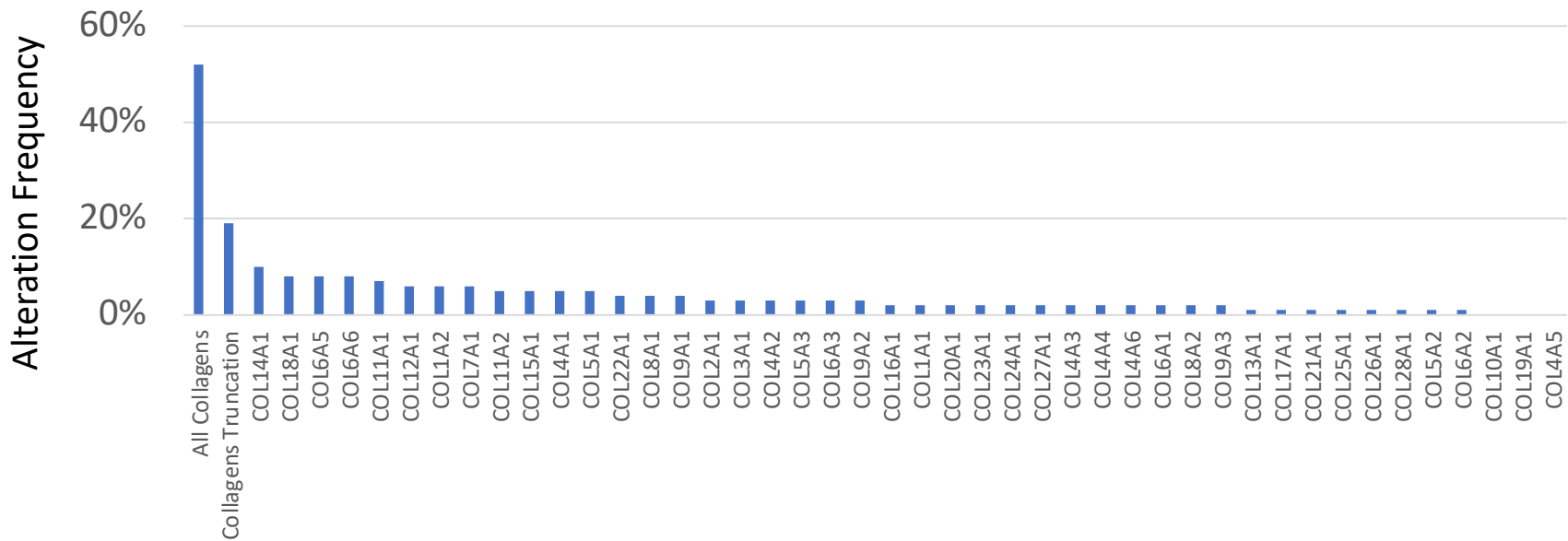


Figure S1B

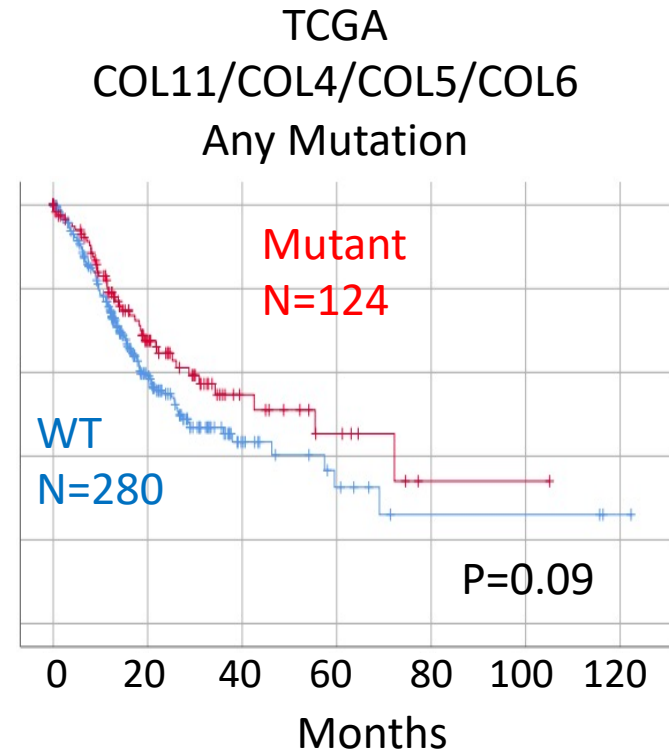
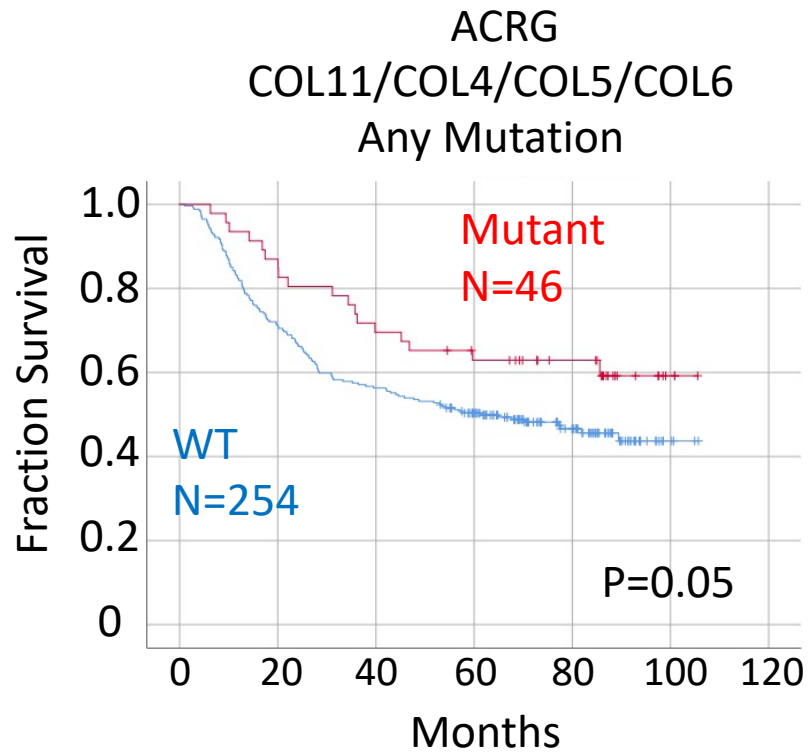


Figure S2A

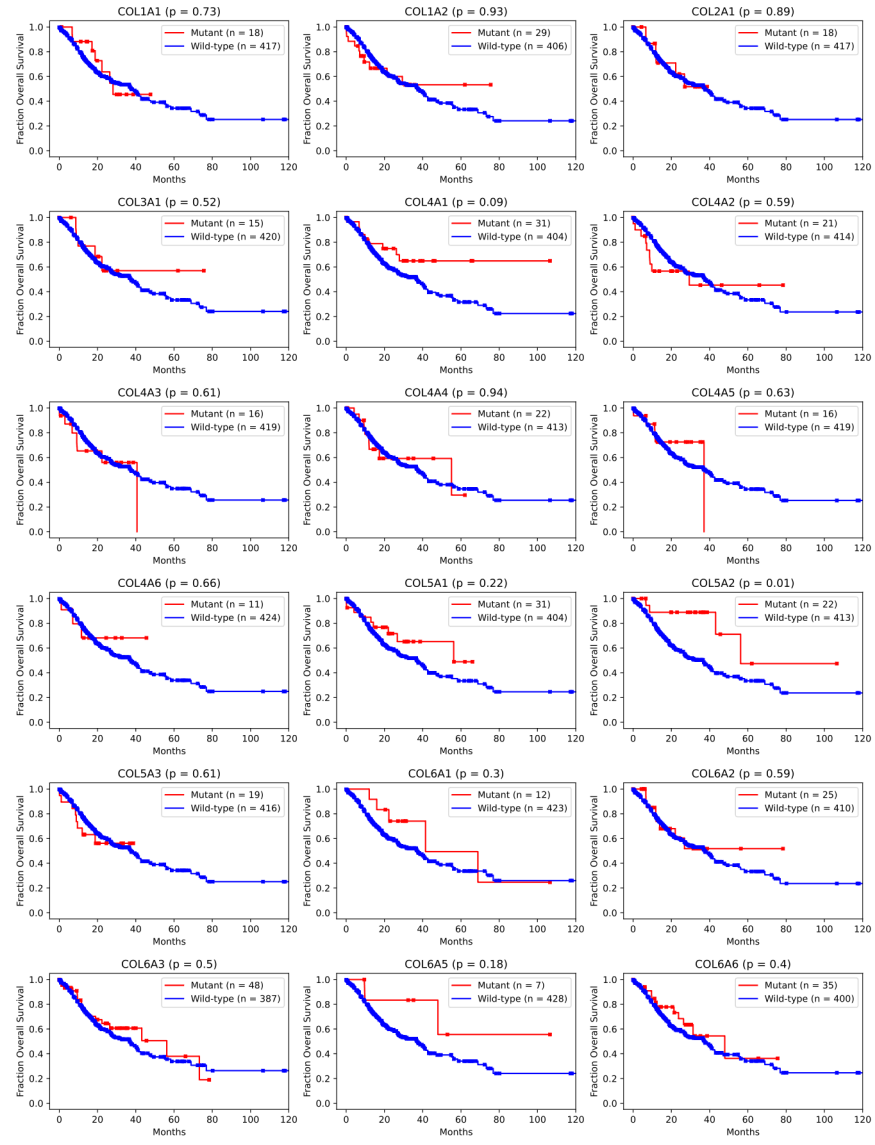


Figure S2A

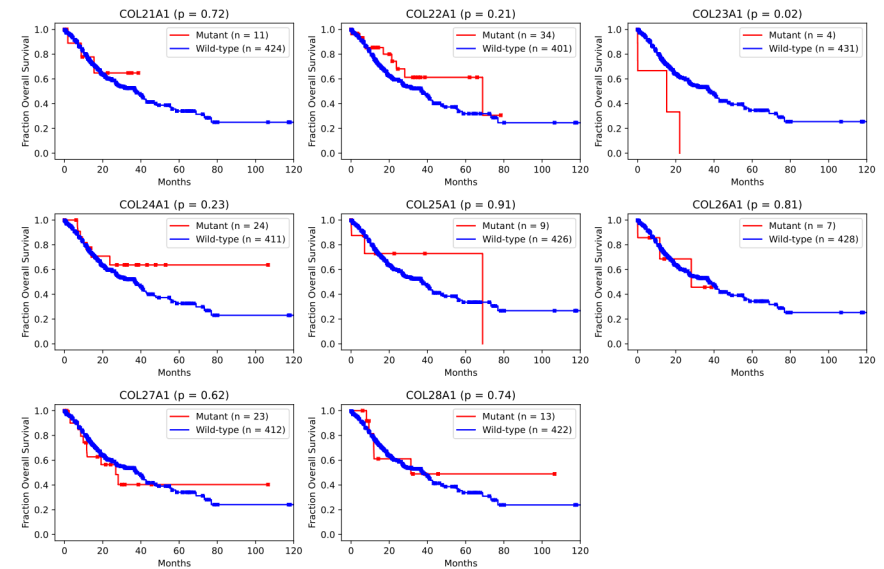
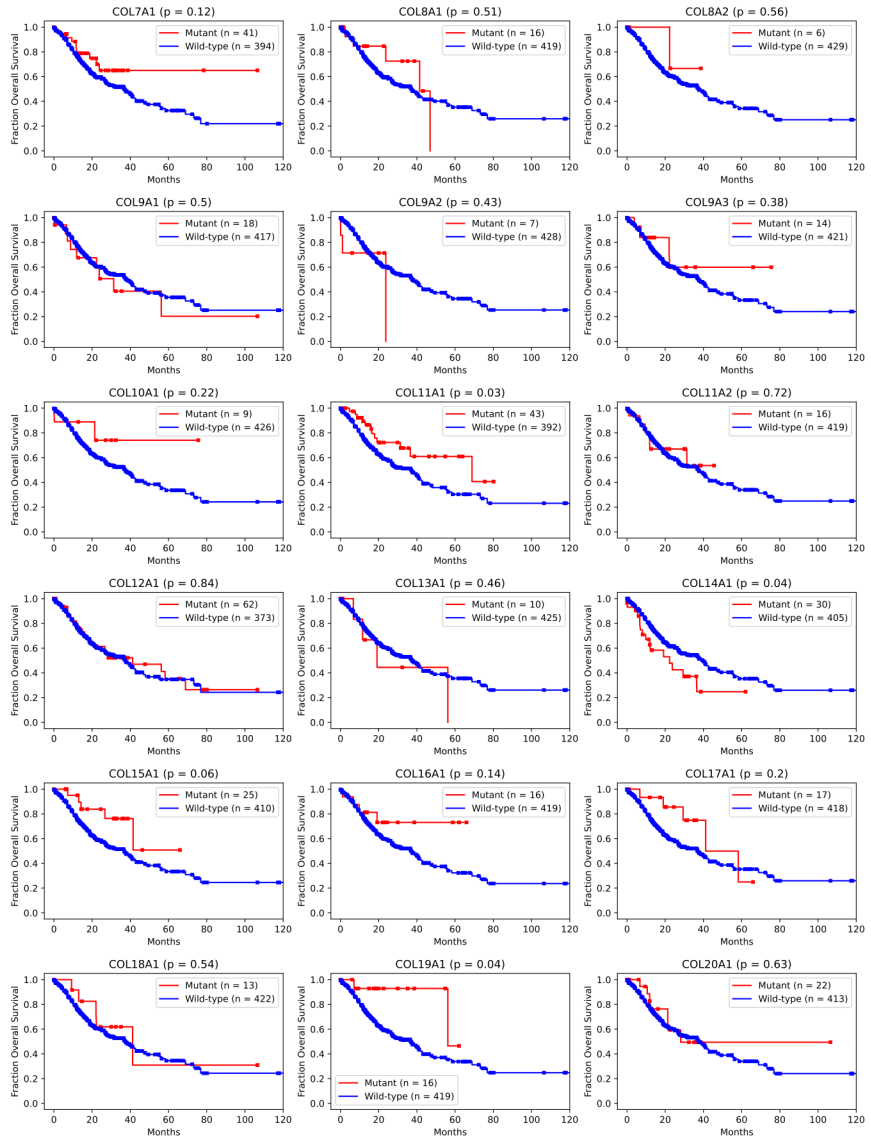


Figure S2B

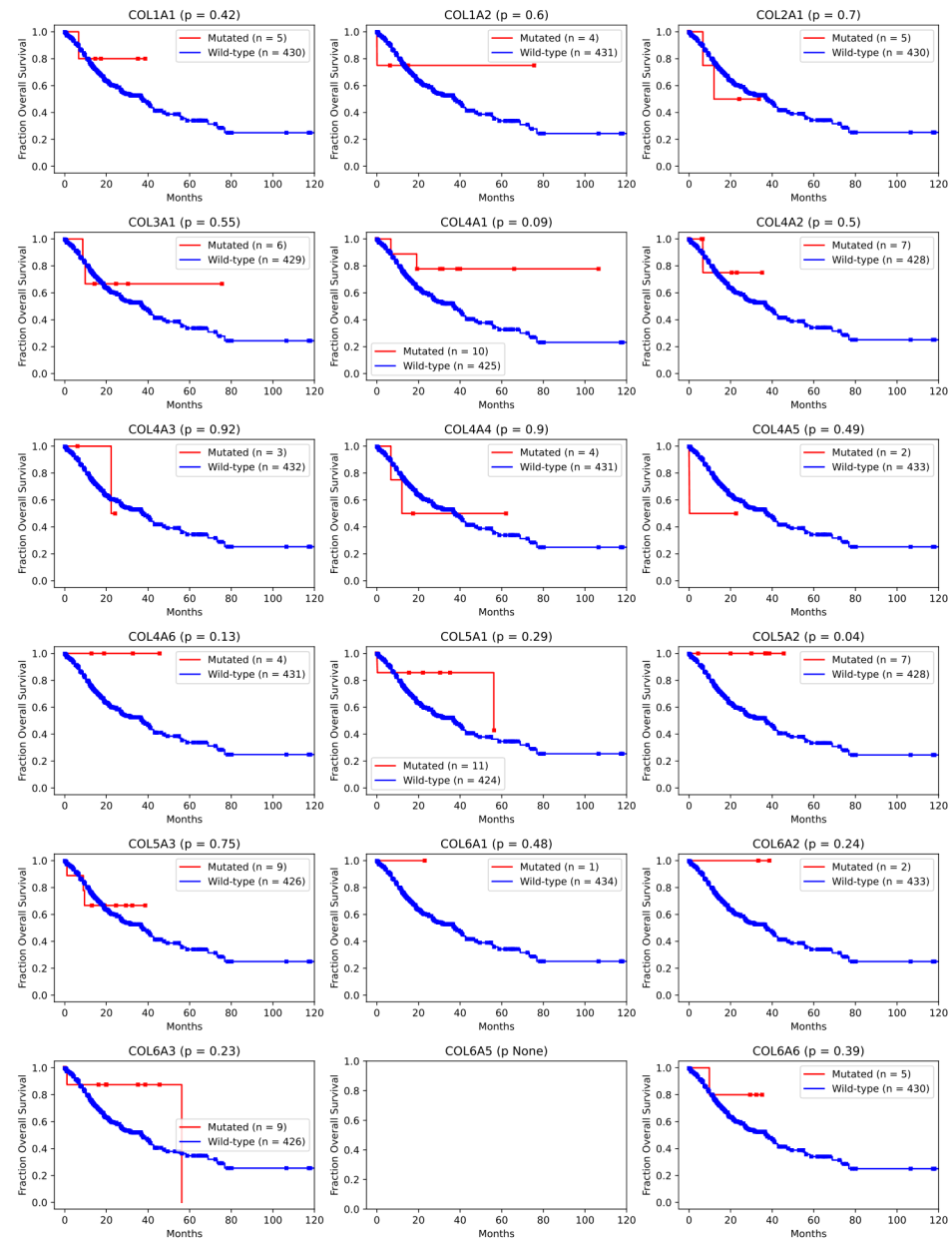


Figure S2B

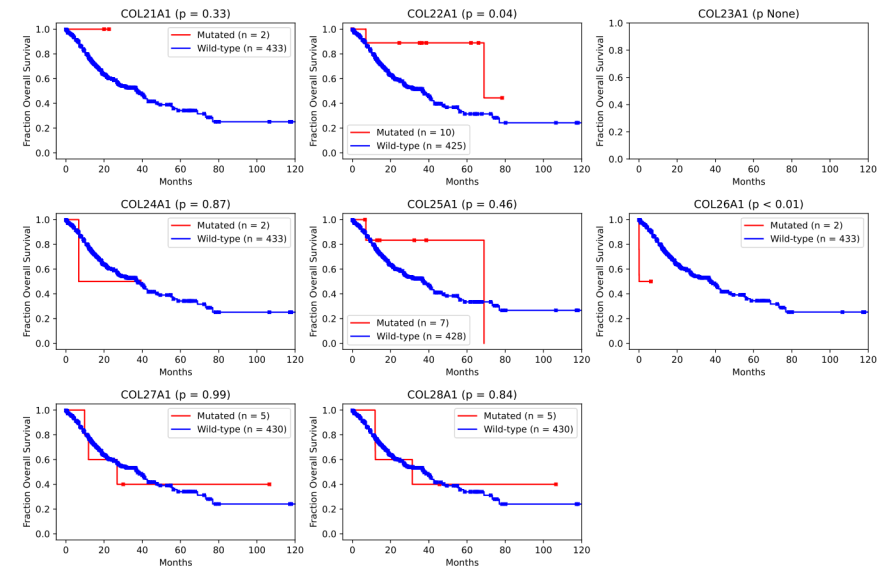
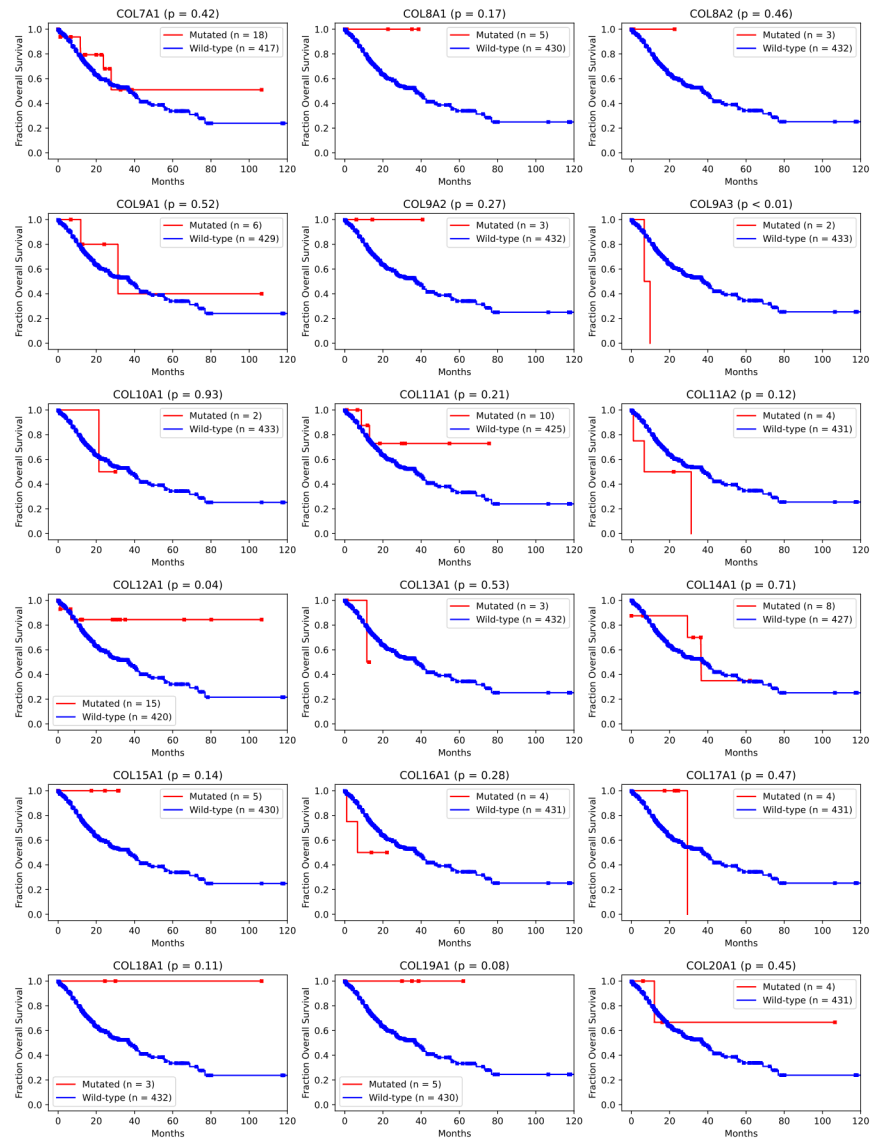


Figure S2C

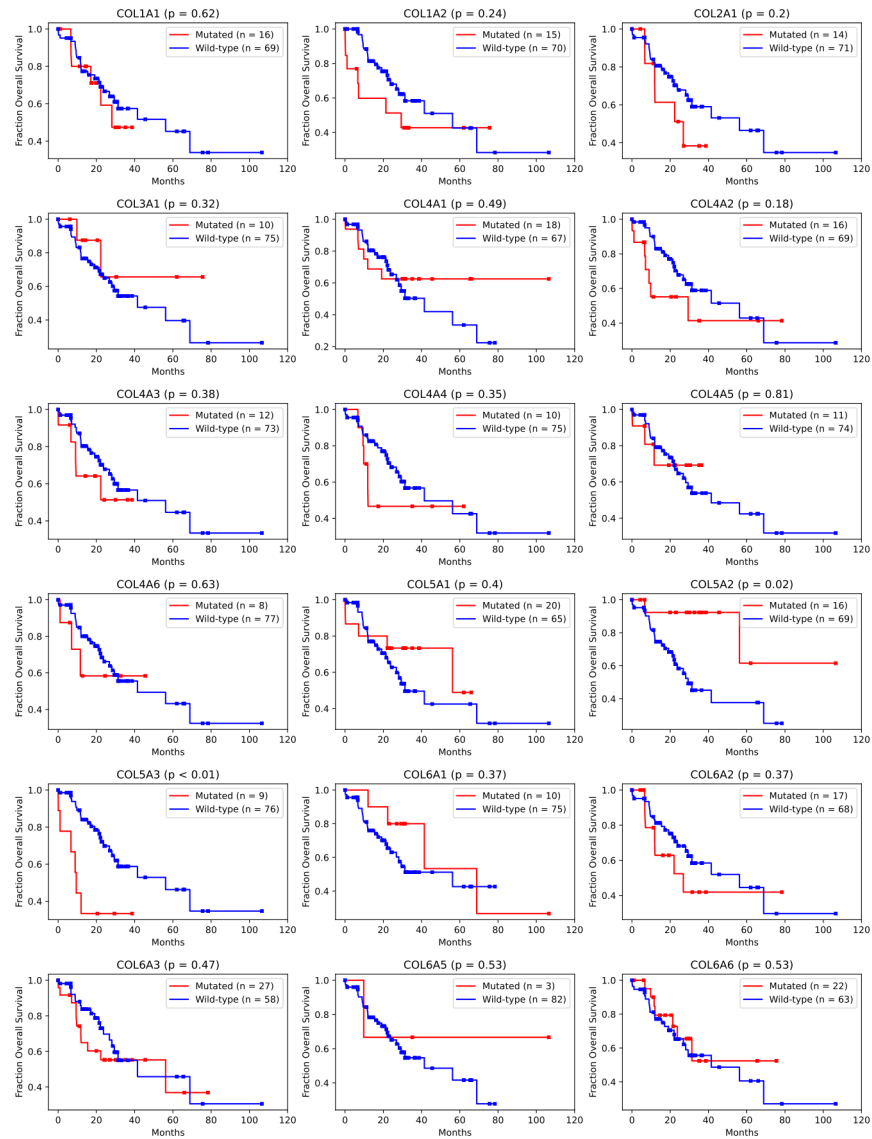


Figure S2C

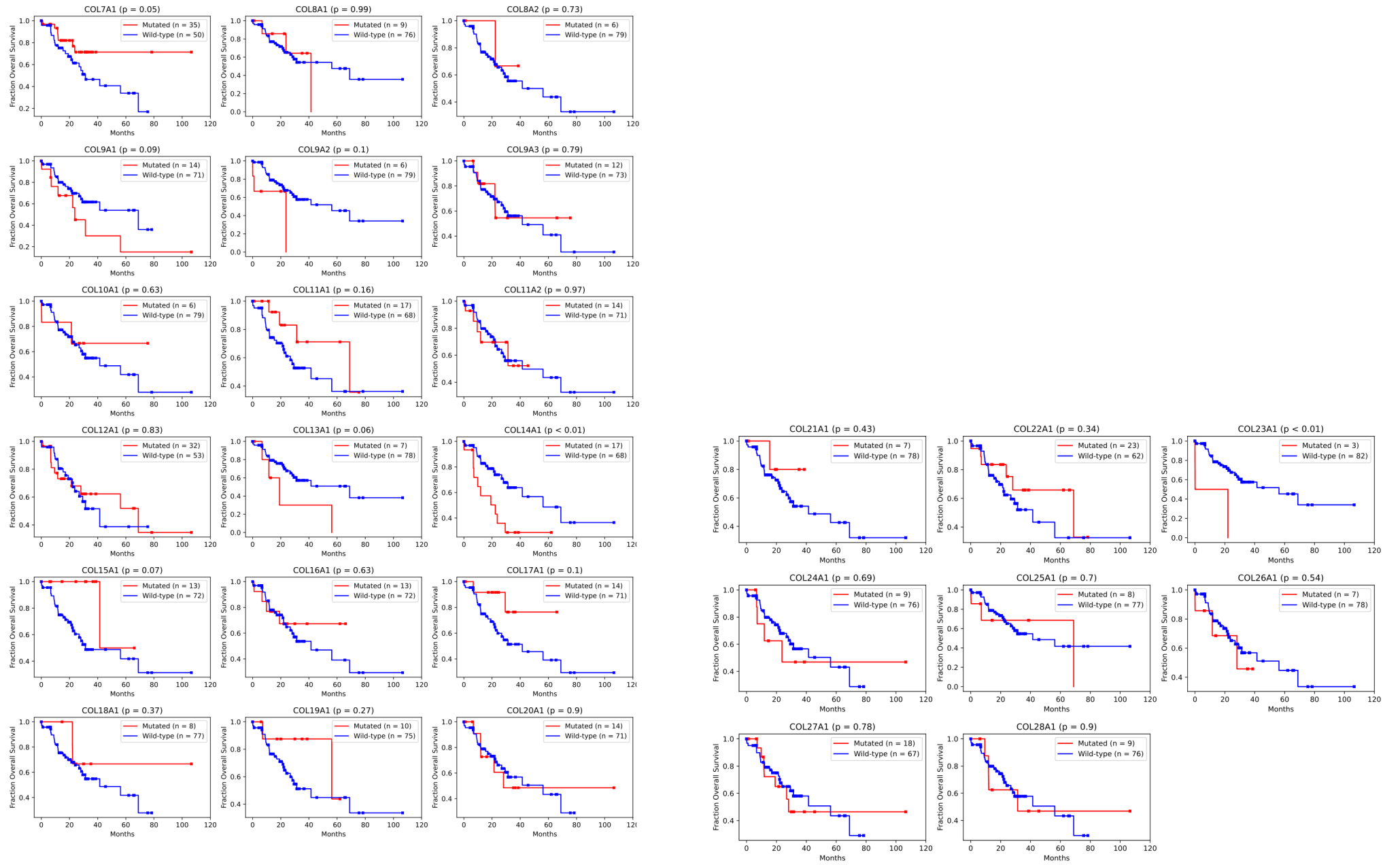


Figure S3A

All Cases
56 Combinations
All Mutations

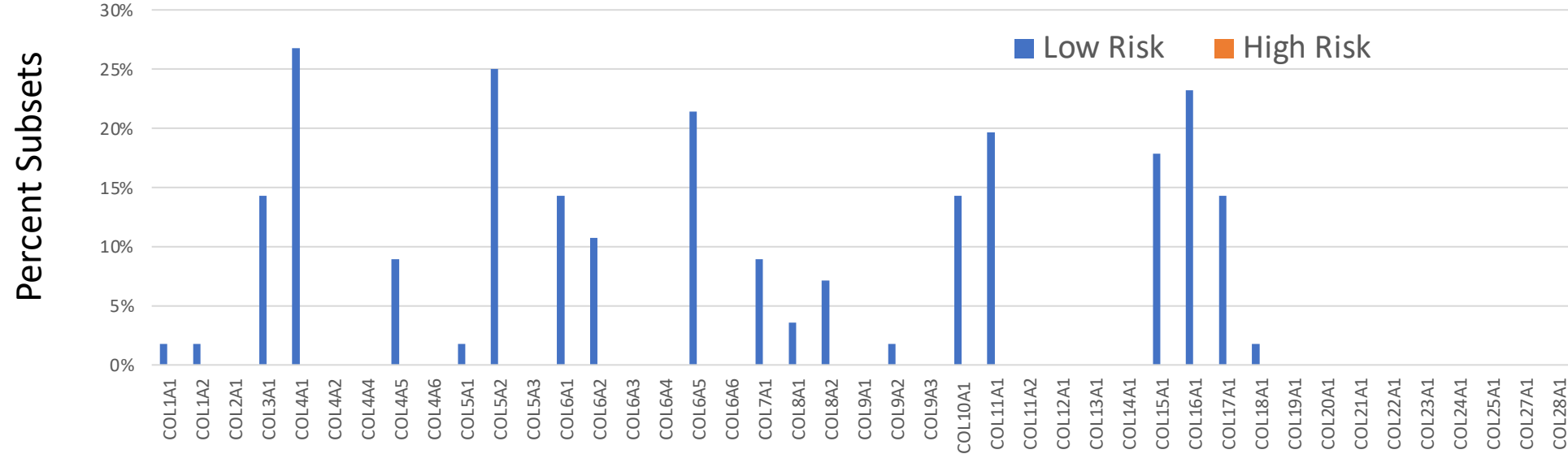
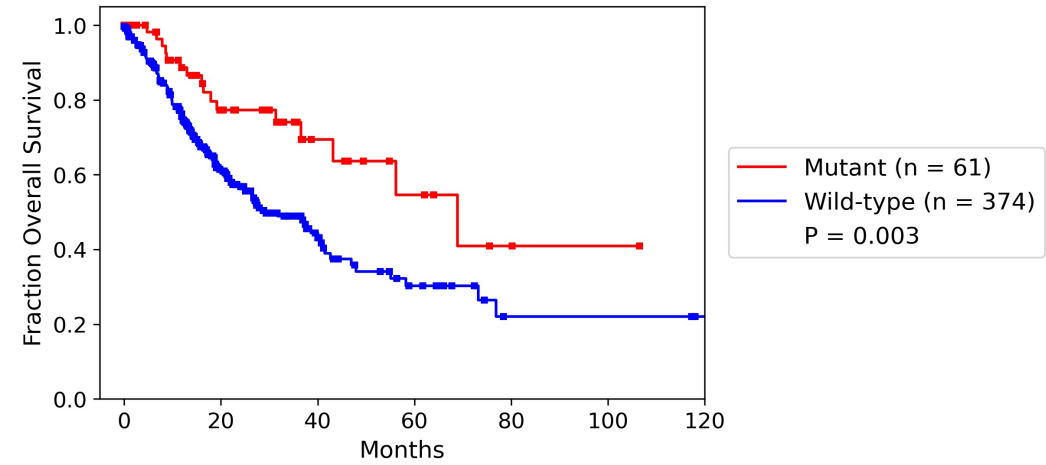


Figure S3B



Genetic Alteration

Missense Mutation (unknown significance) Truncating Mutation (unknown significance) No alterations



Genetic Alteration

Missense Mutation (unknown significance) Truncating Mutation (unknown significance) No alterations

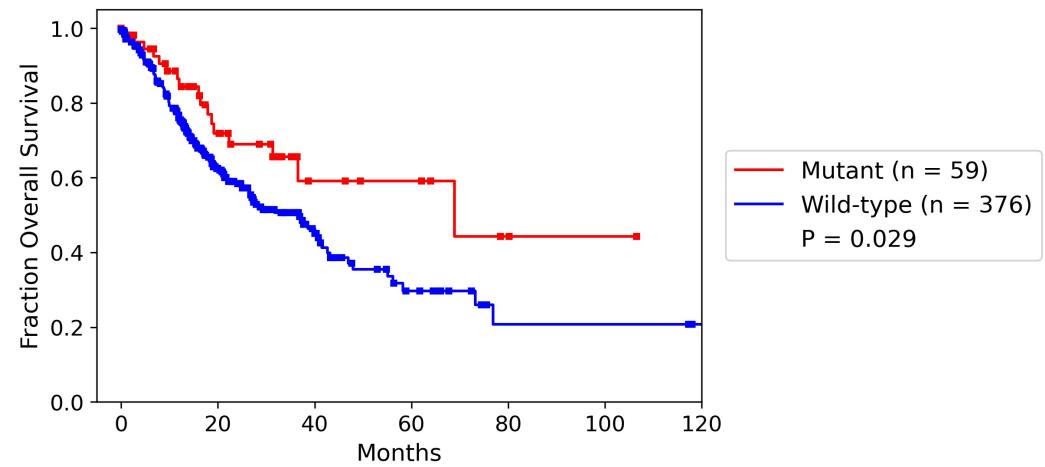
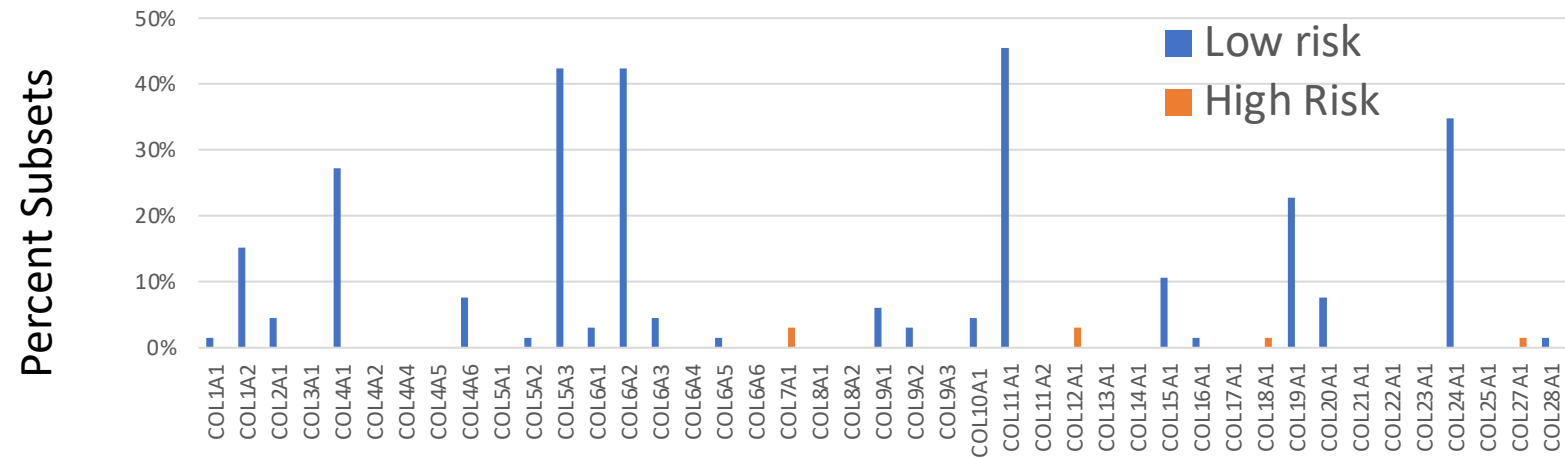


Figure S3C

MSS
66 Combinations



COL4A1

2.8%



Genetic Alteration

Missense Mutation (unknown significance) Truncating Mutation (unknown significance) No alterations

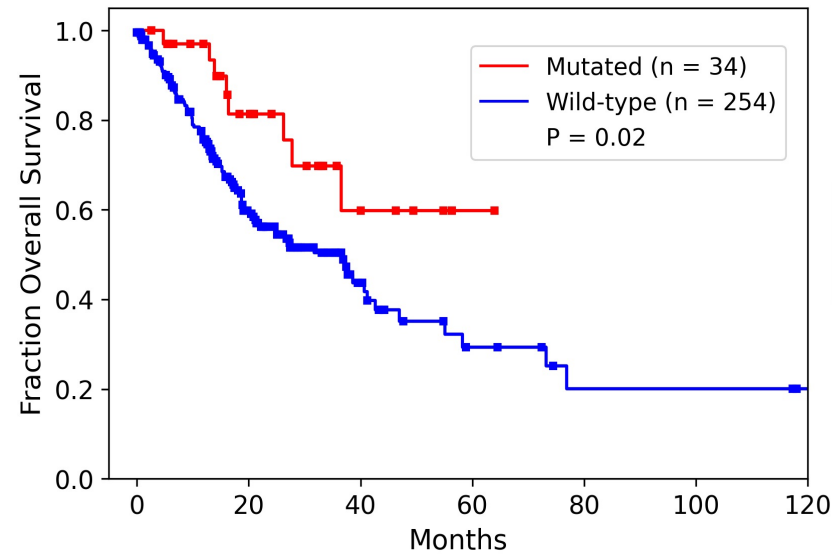


Figure S3D

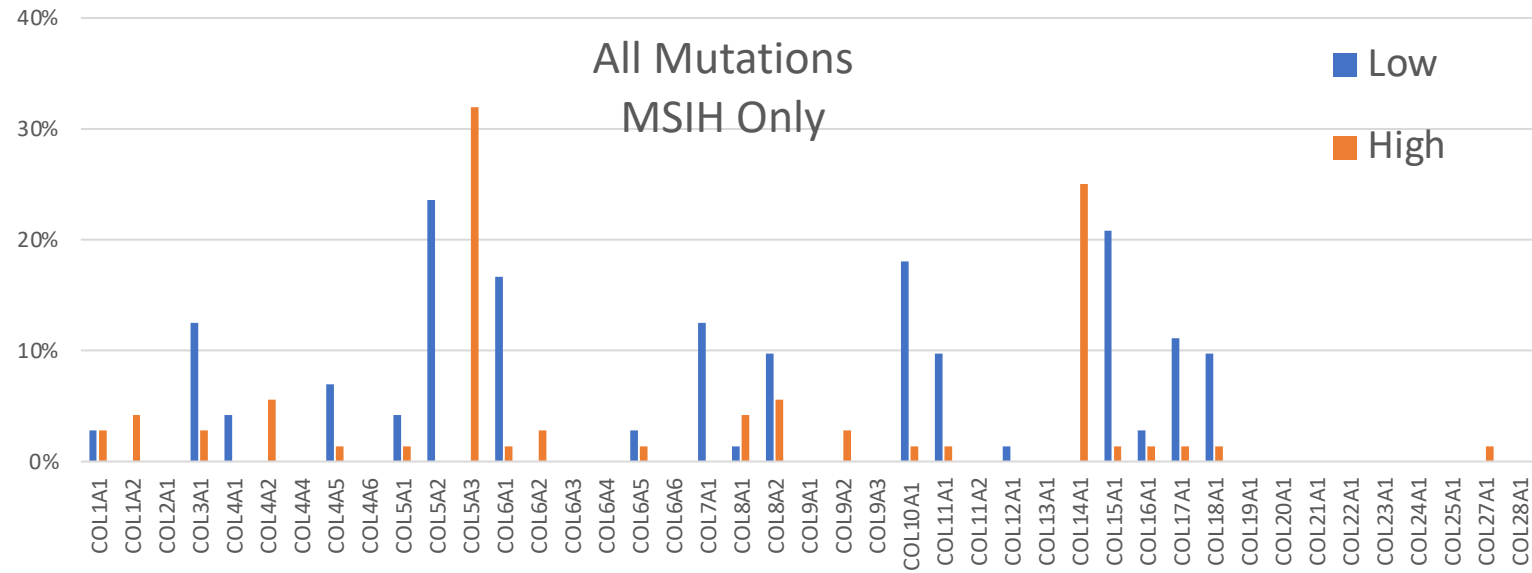


Figure S3E

MSIH only; most frequent significant OS associated collagens

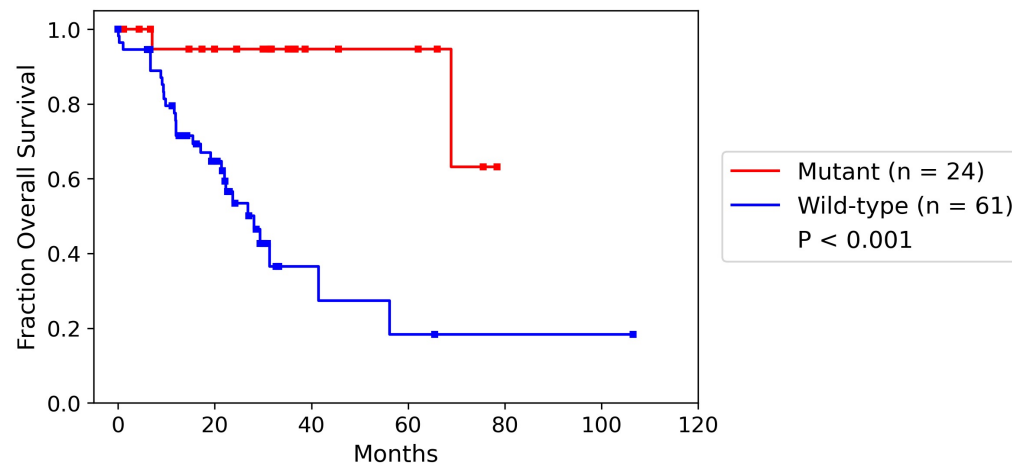
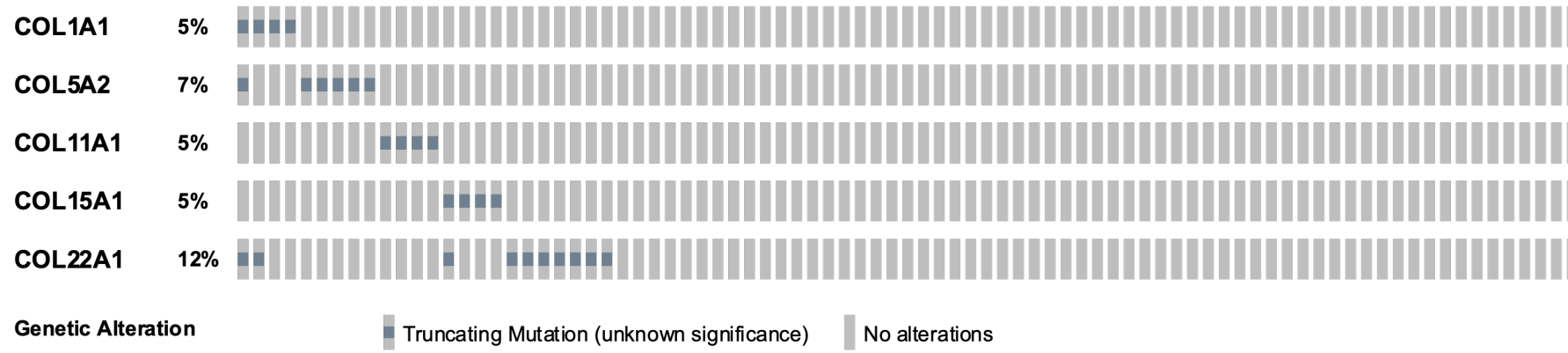
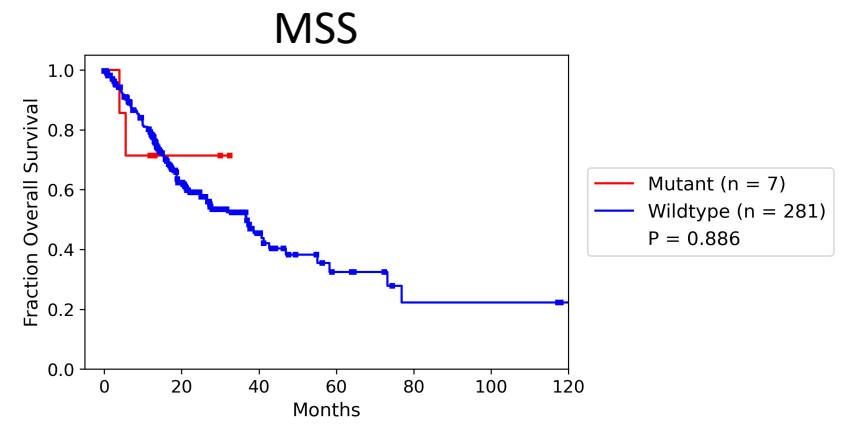
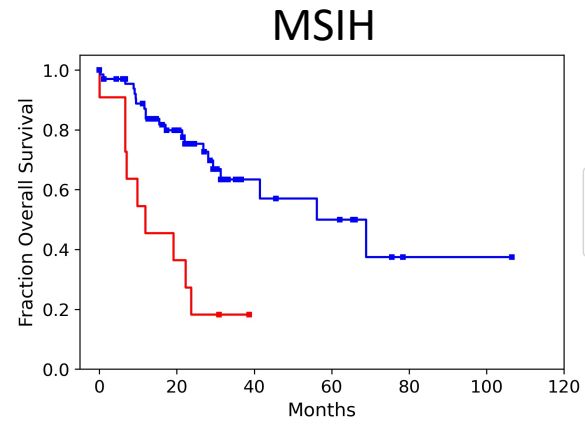


Figure S4

Missense
COL14A1



All
COL5A3

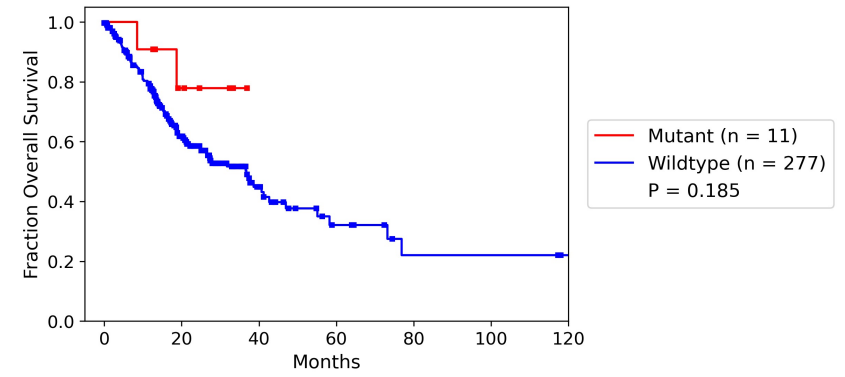
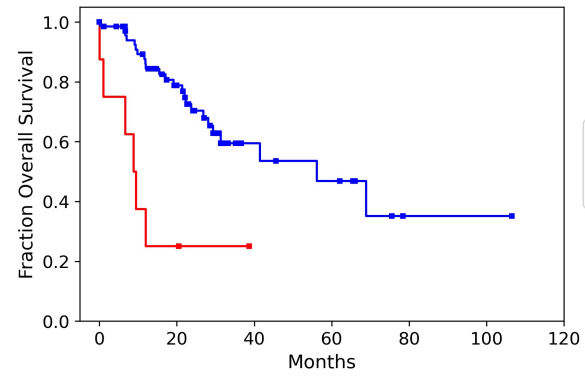


Figure S5A

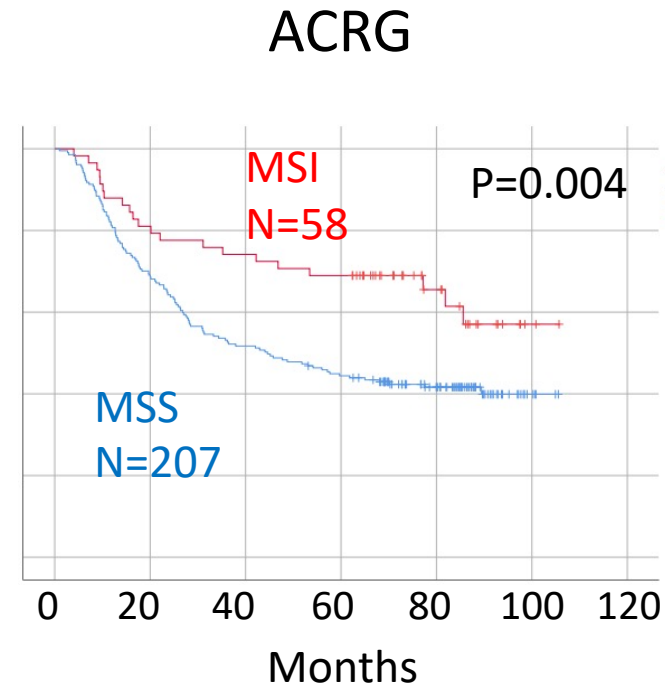
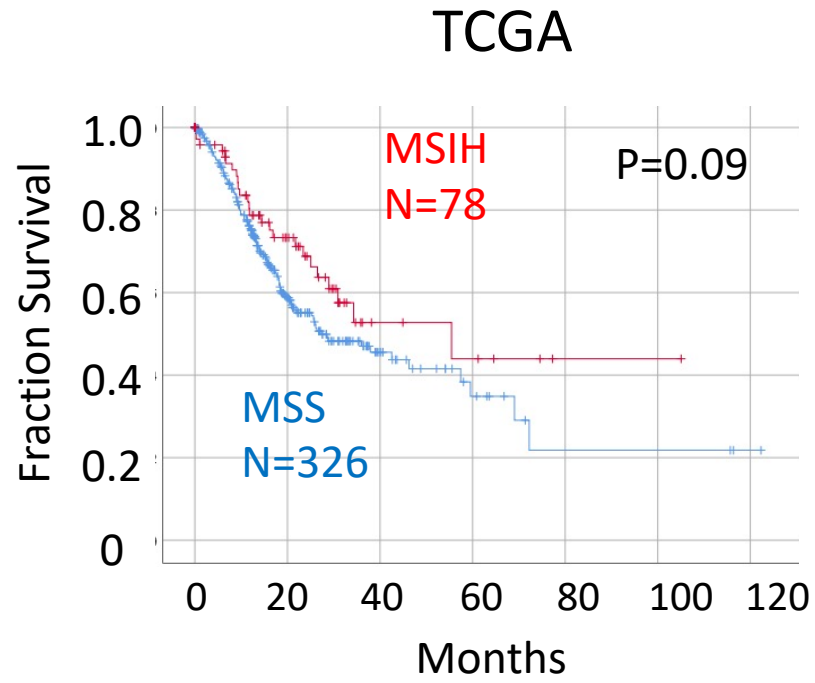


Figure S5B

MSS MSIH

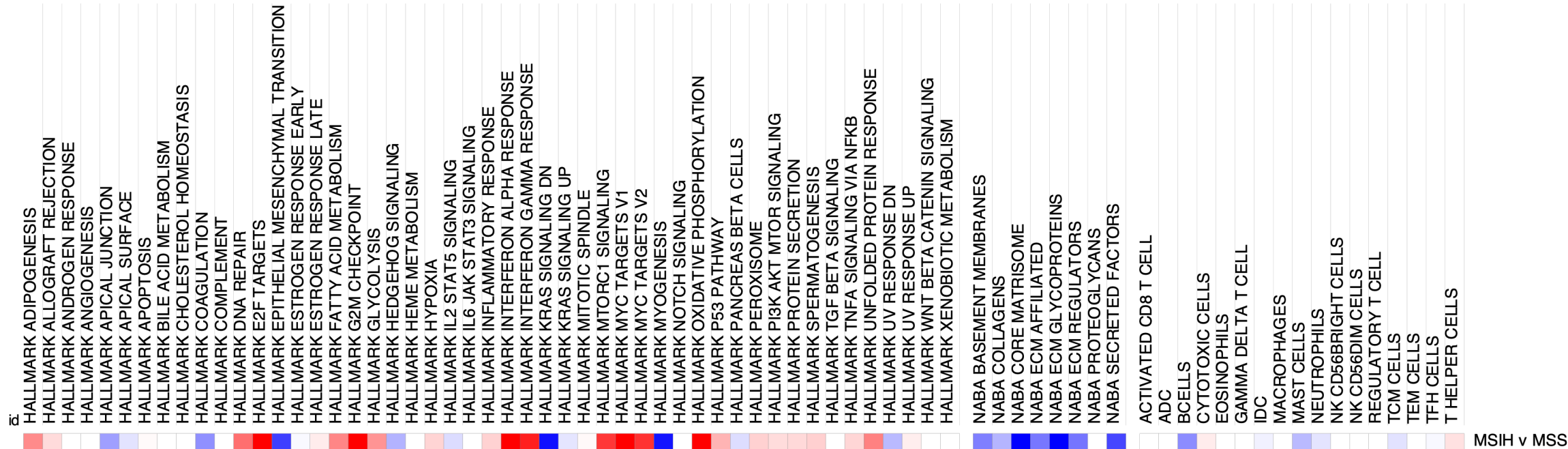


Figure S6A

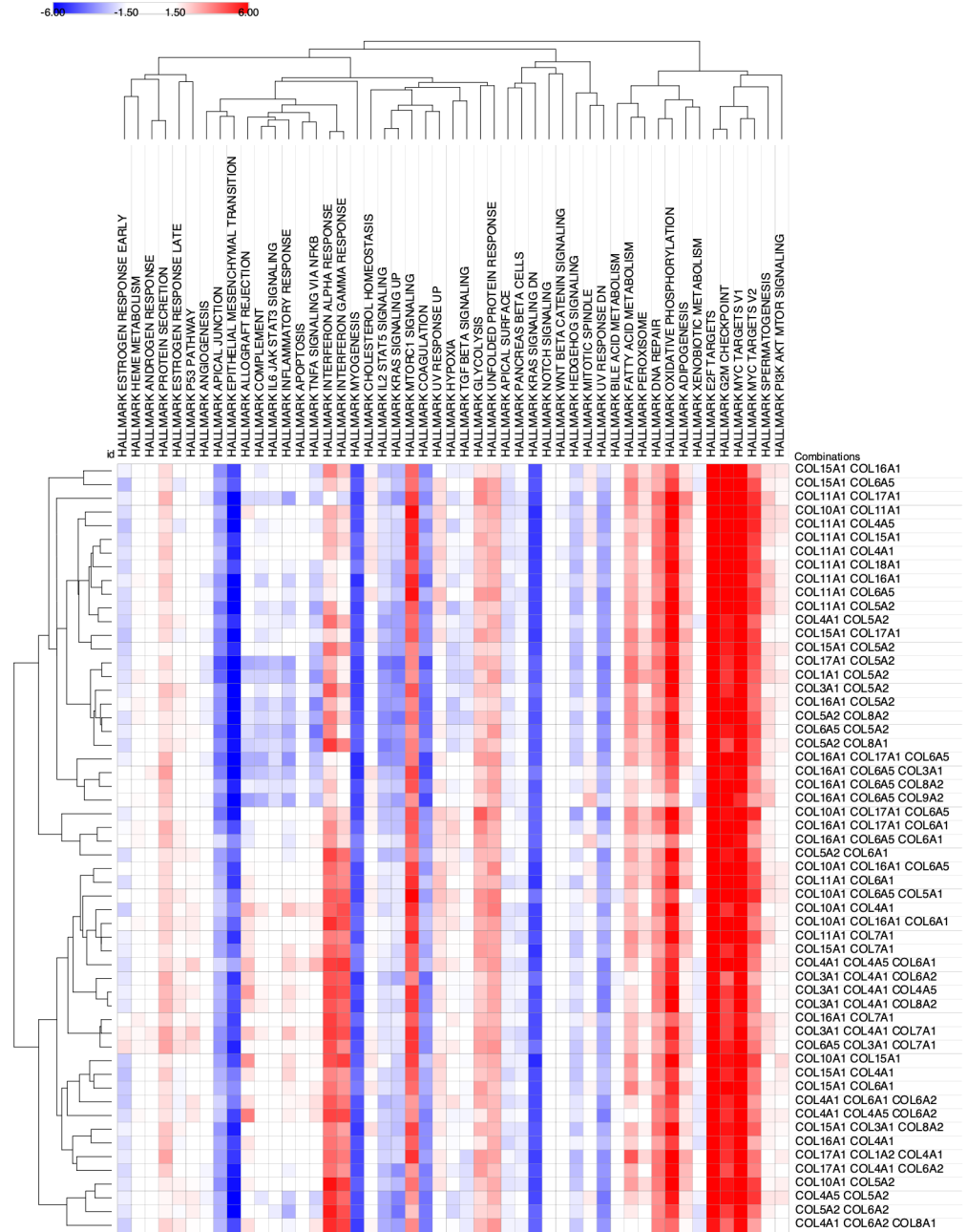


Figure S6B

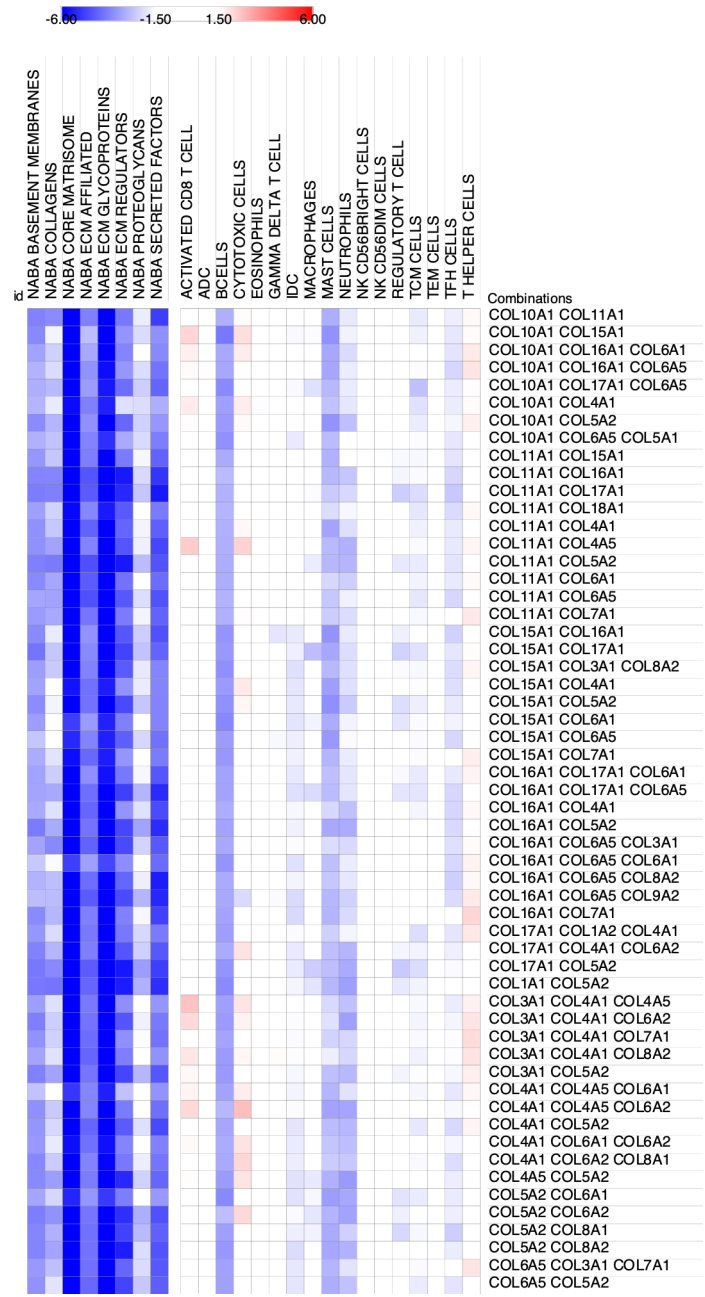
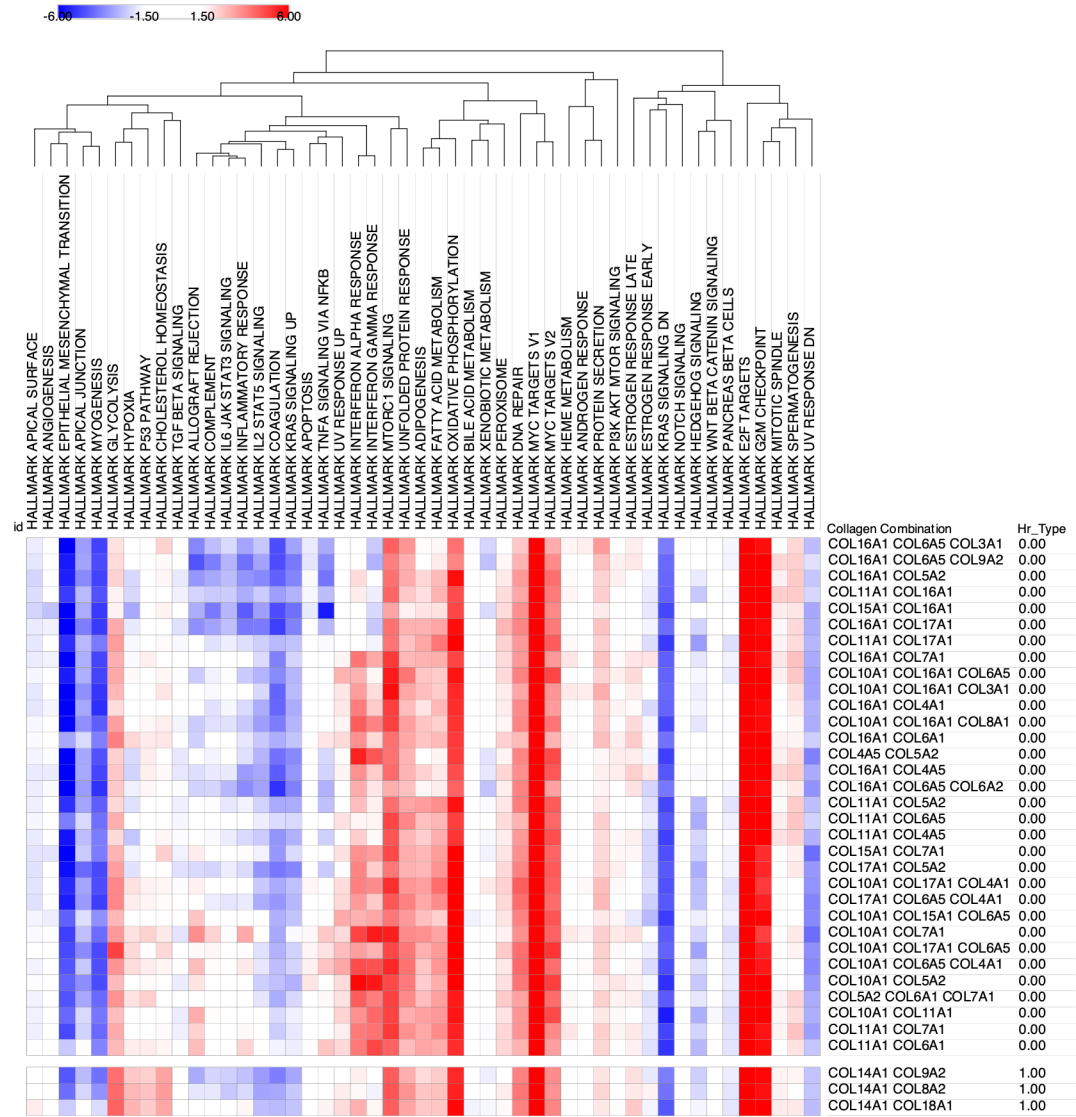
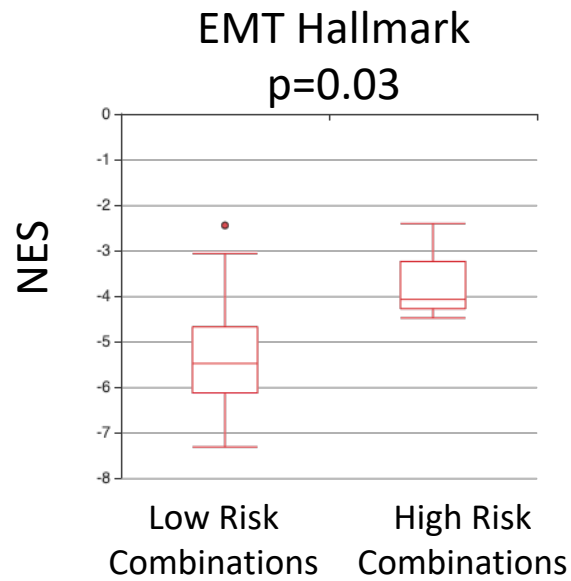


Figure S6D



Low Risk
HR < 1

High Risk
HR > 1

Figure S7A

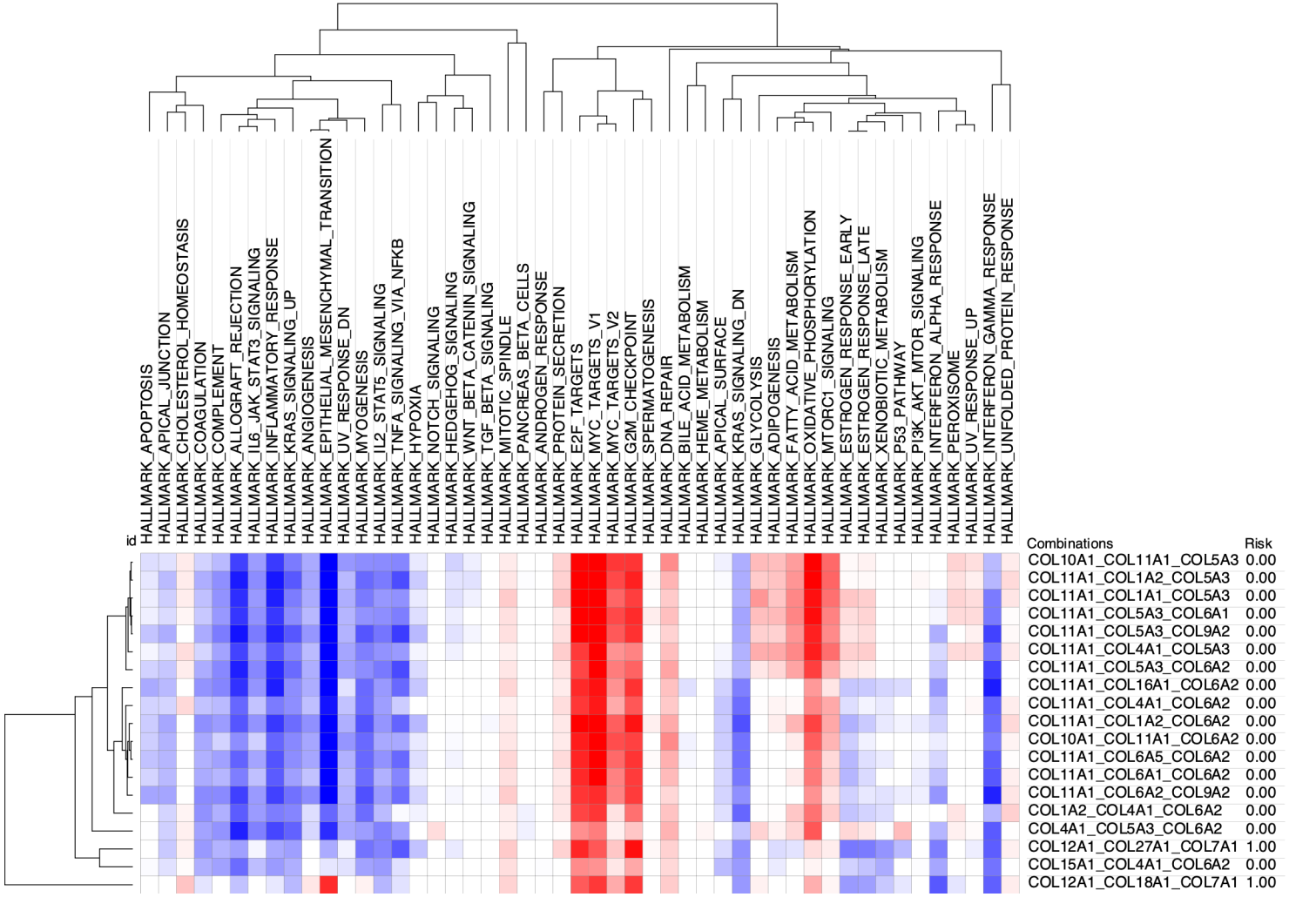
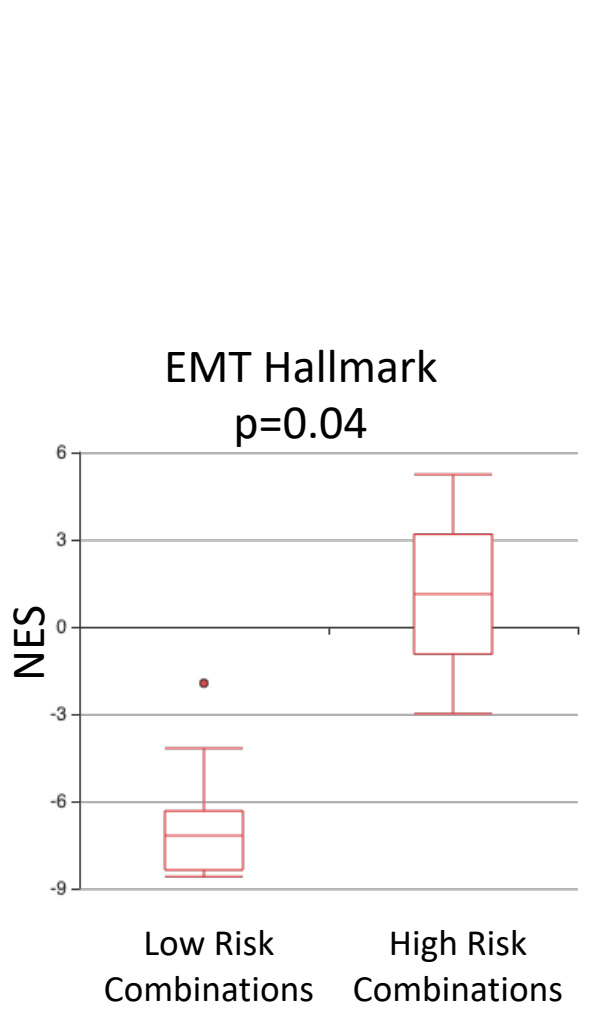
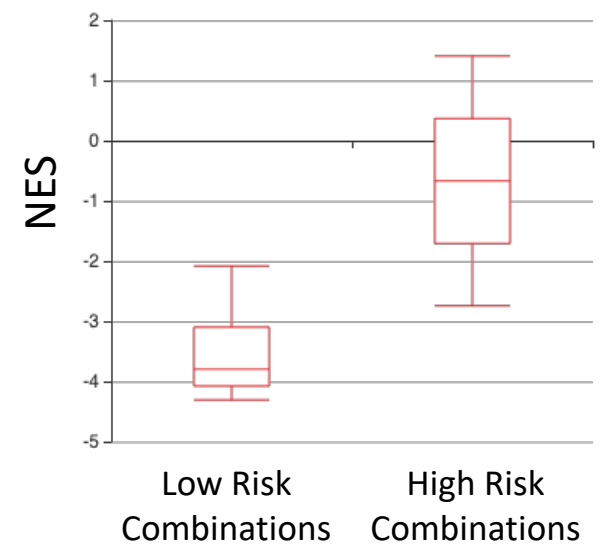
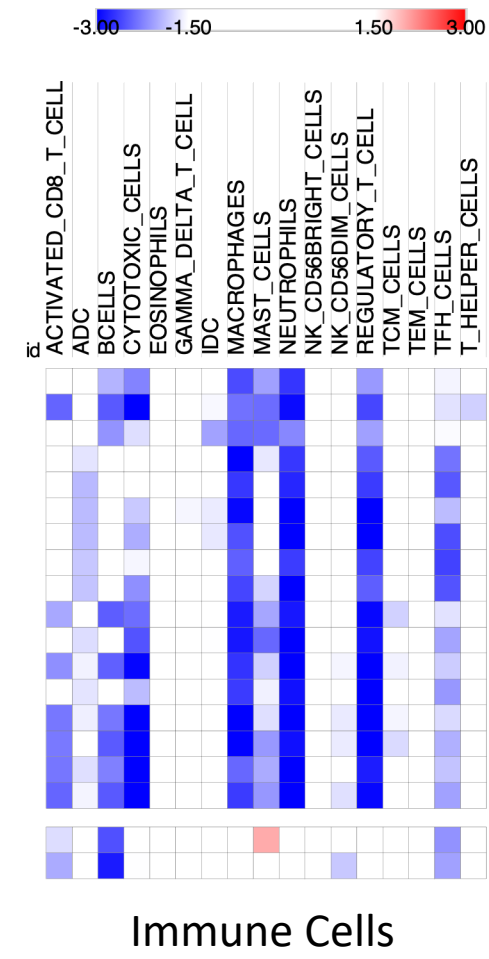
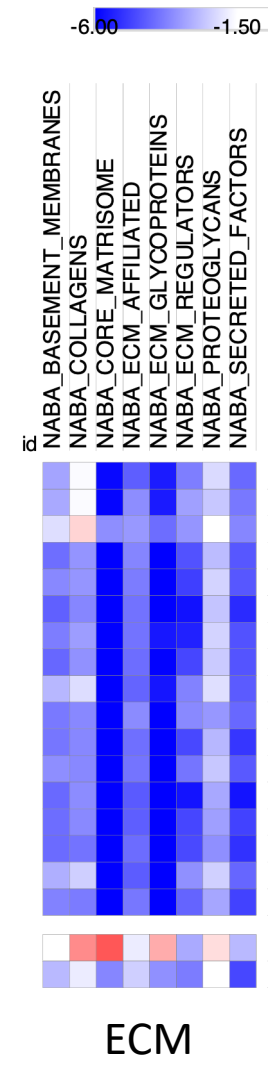
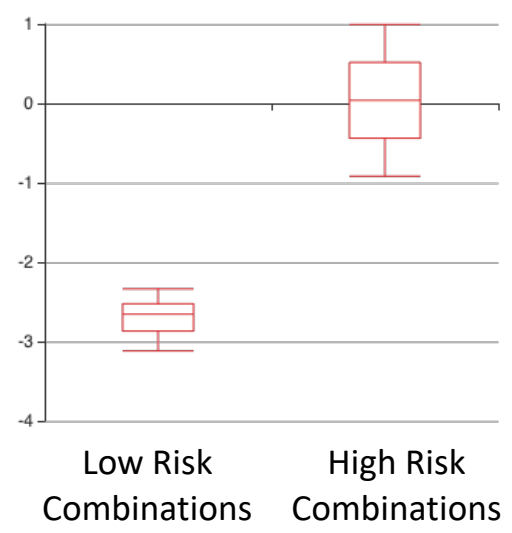


Figure S7B

NABA Basement Membranes
p=0.03



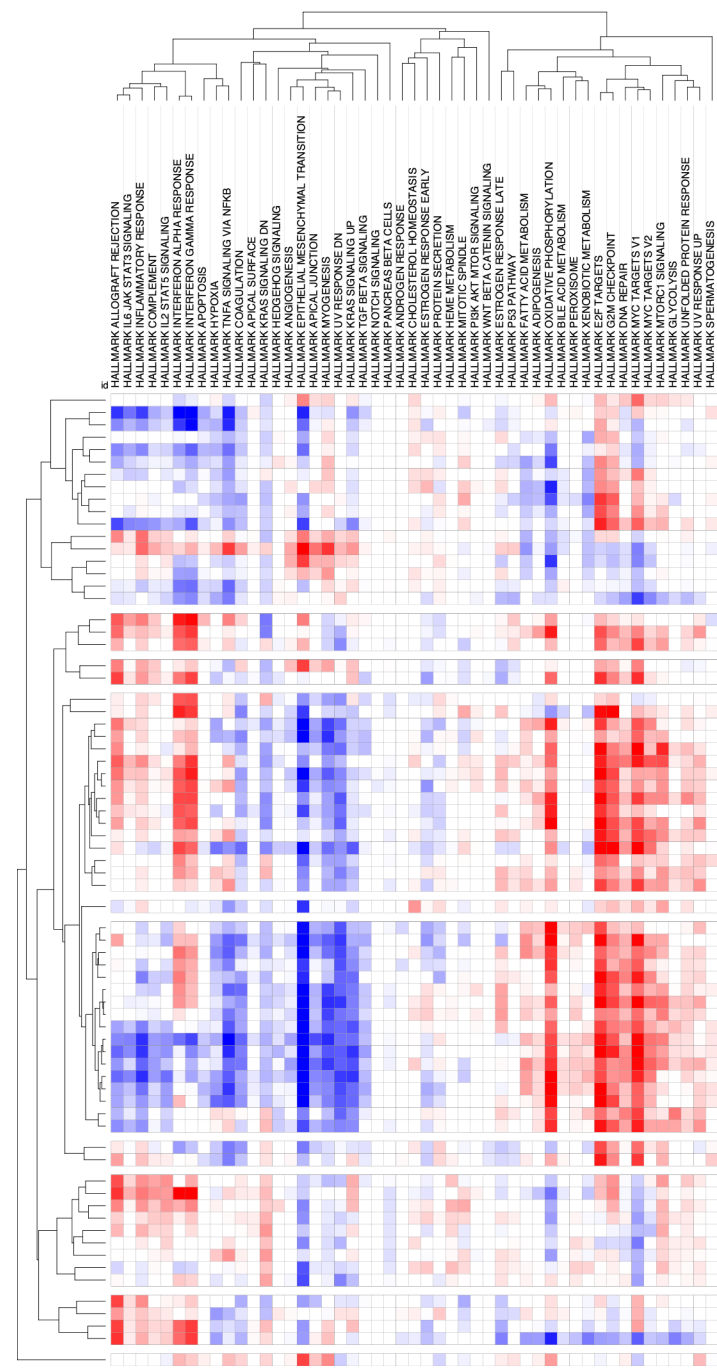
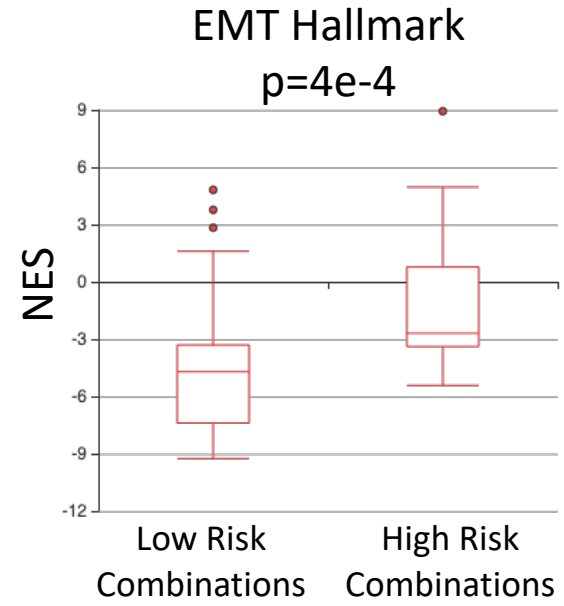
Macrophages
p=0.01



- Combinations
- COL1A2_COL4A1_COL6A2
 - COL4A1_COL5A3_COL6A2
 - COL15A1_COL4A1_COL6A2
 - COL10A1_COL11A1_COL6A2
 - COL11A1_COL6A1_COL6A2
 - COL11A1_COL6A2_COL9A2
 - COL11A1_COL16A1_COL6A2
 - COL11A1_COL6A5_COL6A2
 - COL11A1_COL4A1_COL6A2
 - COL10A1_COL11A1_COL5A3
 - COL11A1_COL5A3_COL6A2
 - COL11A1_COL5A3_COL6A1
 - COL11A1_COL1A2_COL6A2
 - COL11A1_COL5A3_COL9A2
 - COL11A1_COL1A2_COL5A3
 - COL11A1_COL4A1_COL5A3
 - COL11A1_COL1A1_COL5A3
 - COL12A1_COL18A1_COL7A1
 - COL12A1_COL27A1_COL7A1

Figure S8A

-6.00 -1.50 1.50 6.00



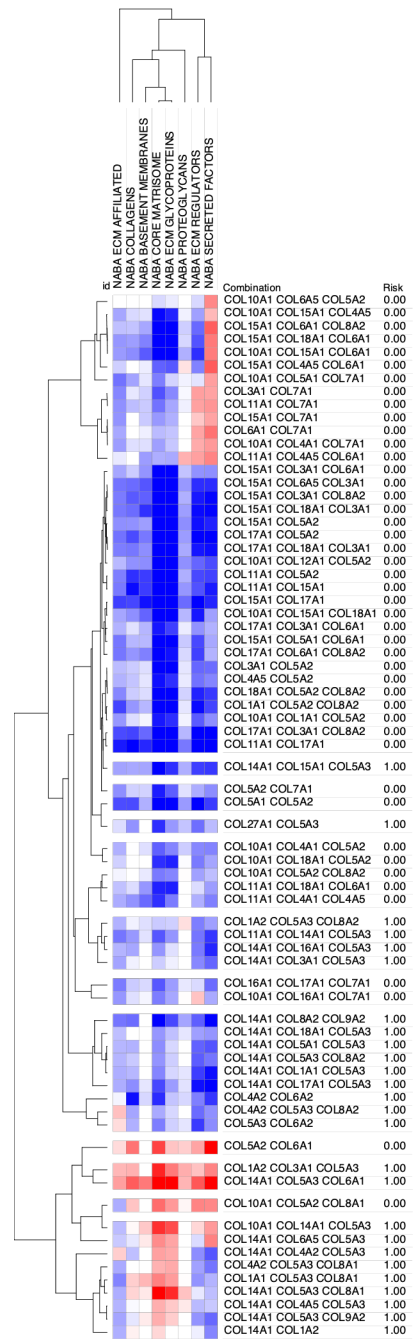
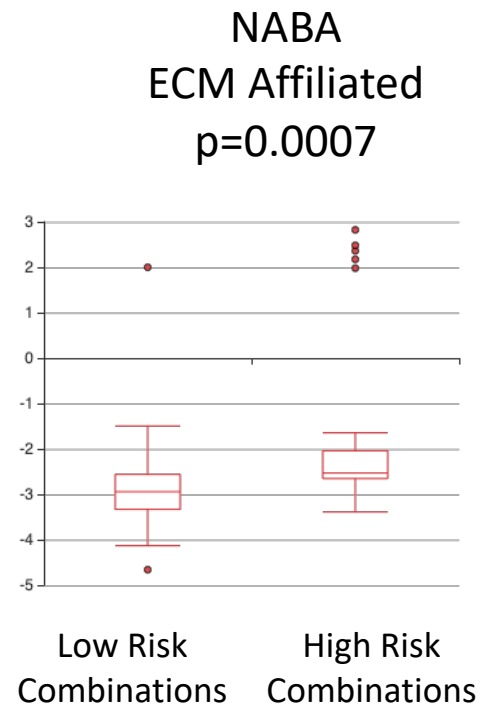
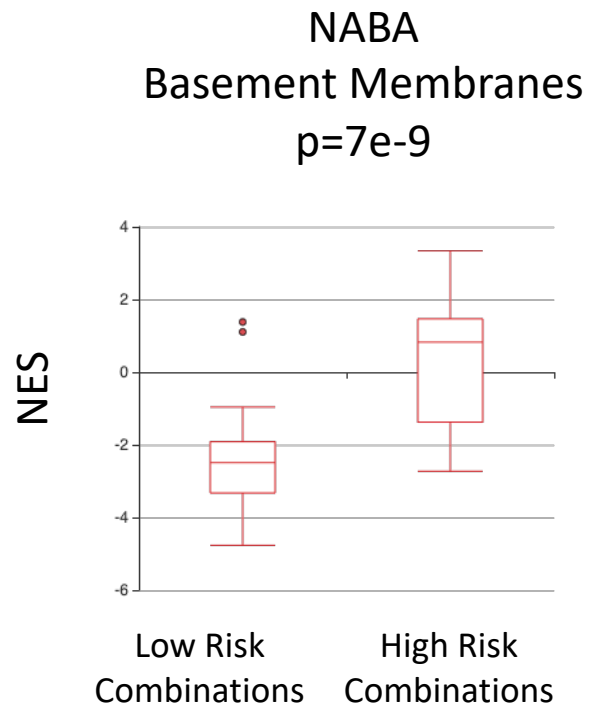
High Risk
HR > 1

Low Risk
HR < 1

Low Risk
HR < 1

Low Risk
HR < 1

Figure S8C



Low Risk
 HR < 1

High Risk
 HR > 1

High Risk
 HR > 1

Figure S8C

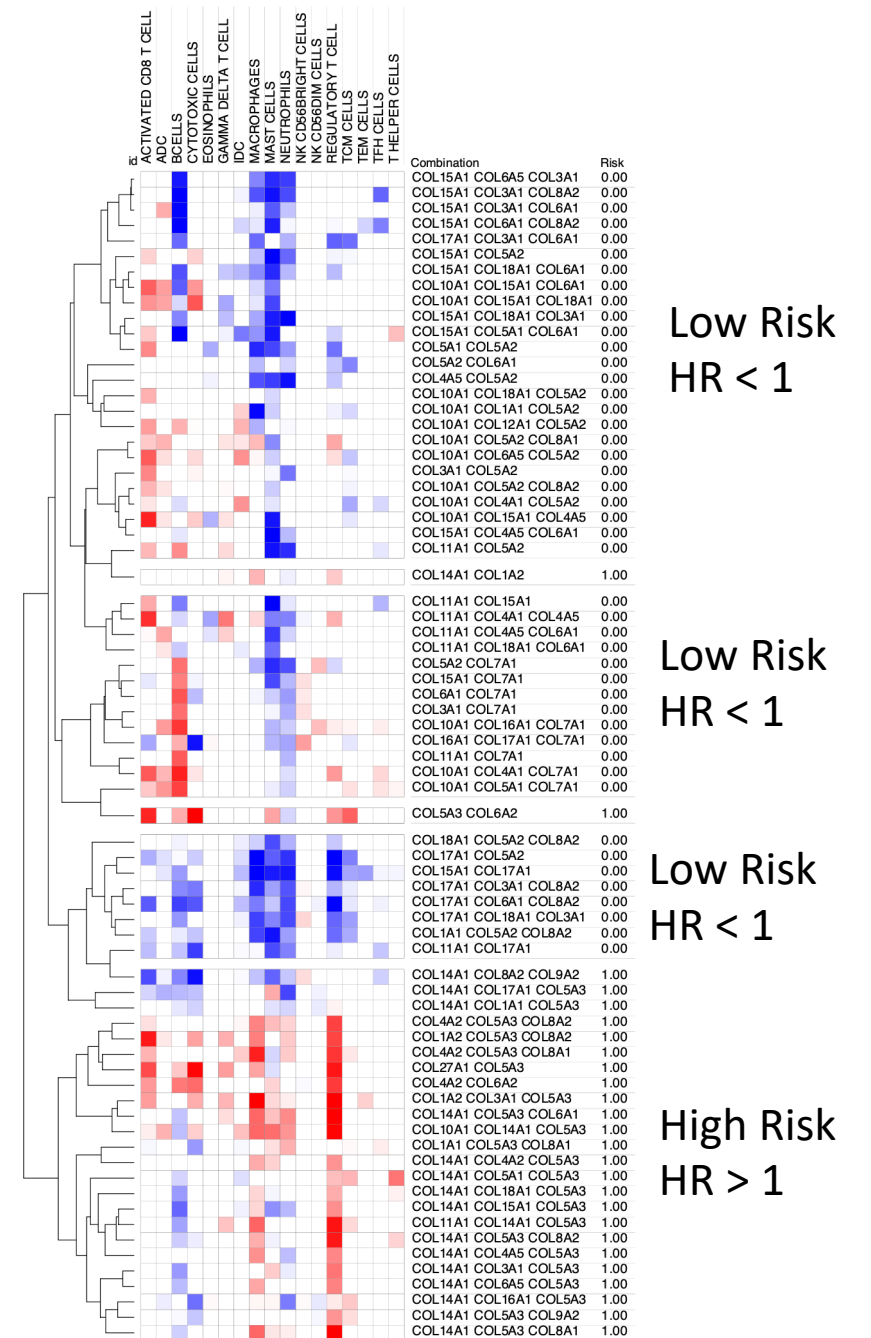
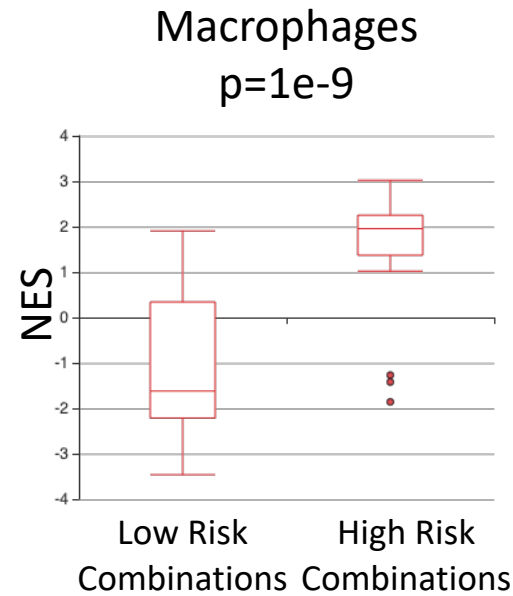
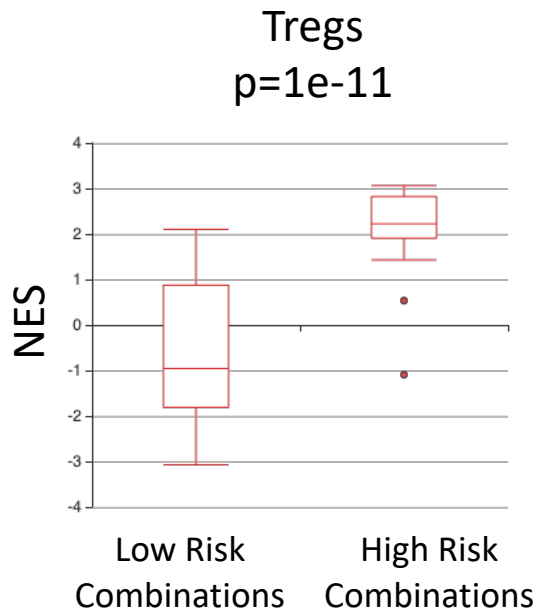
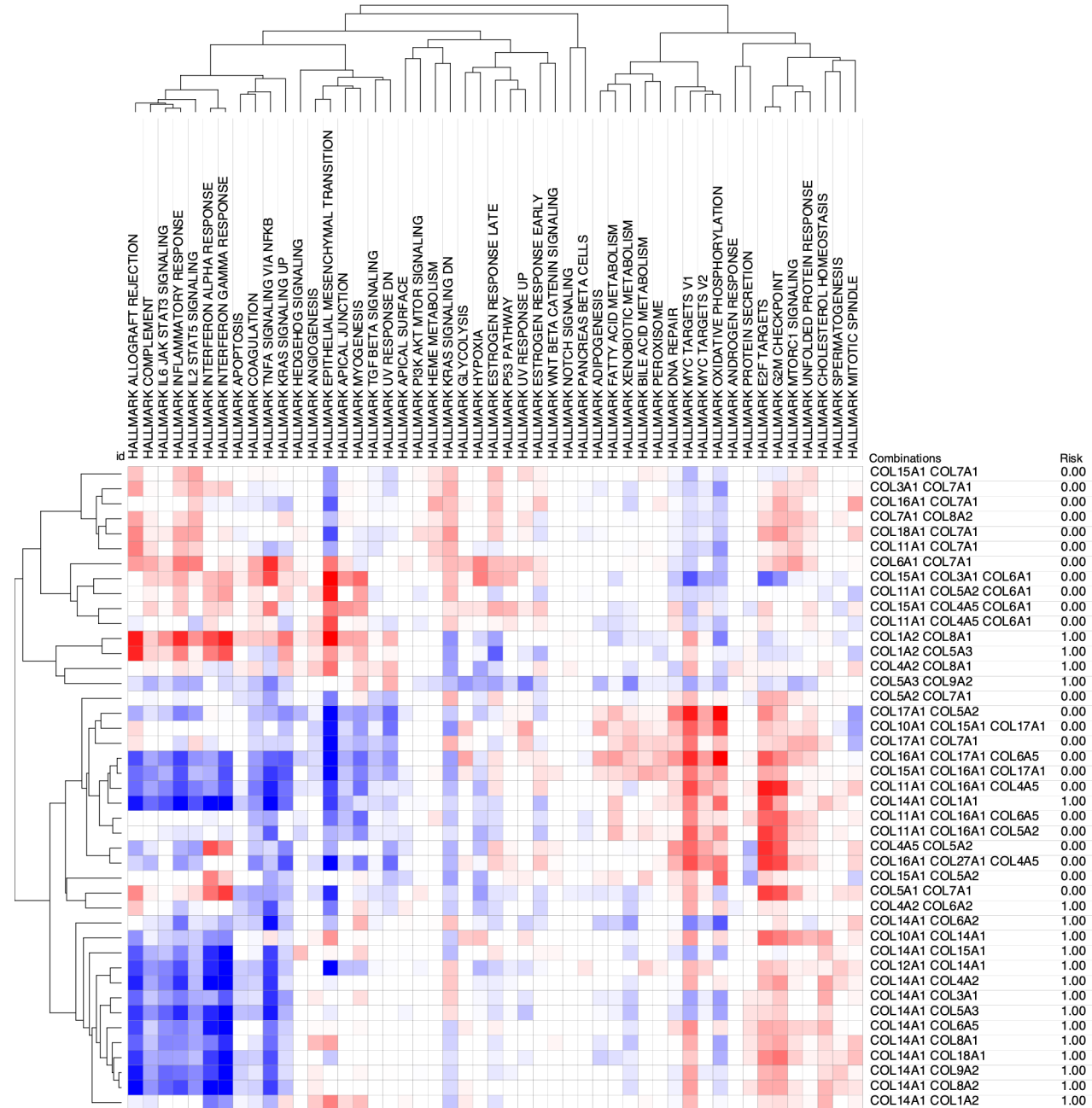
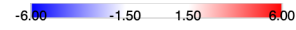


Figure S9A

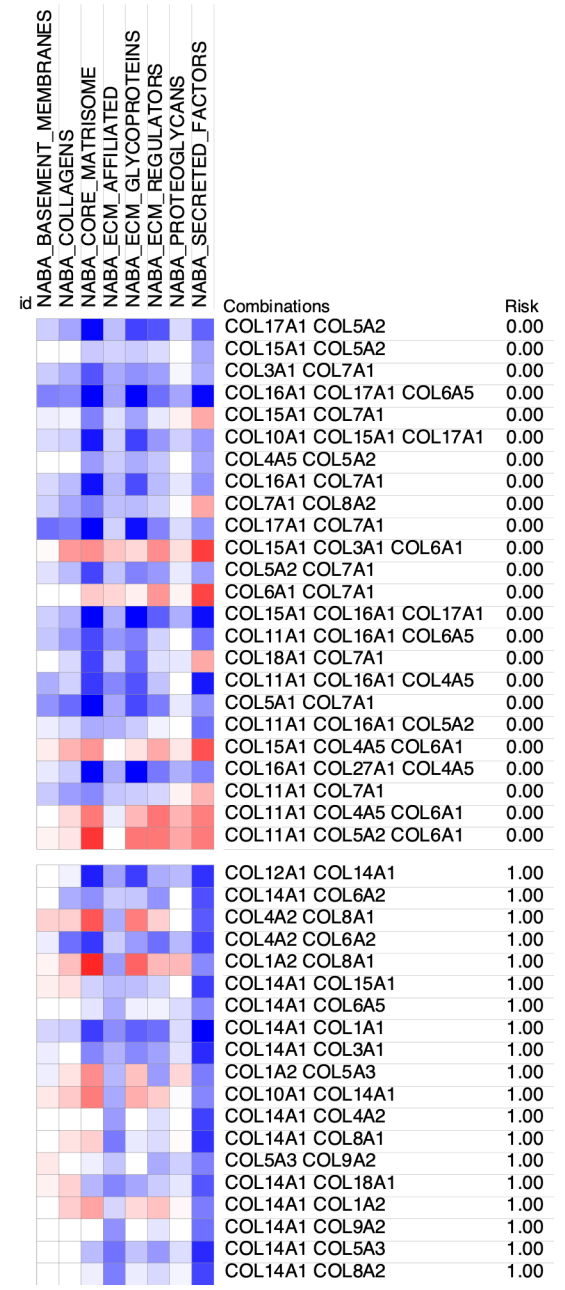
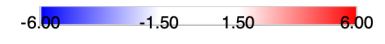


Low Risk
HR < 1

Low Risk
HR < 1

High Risk
HR > 1

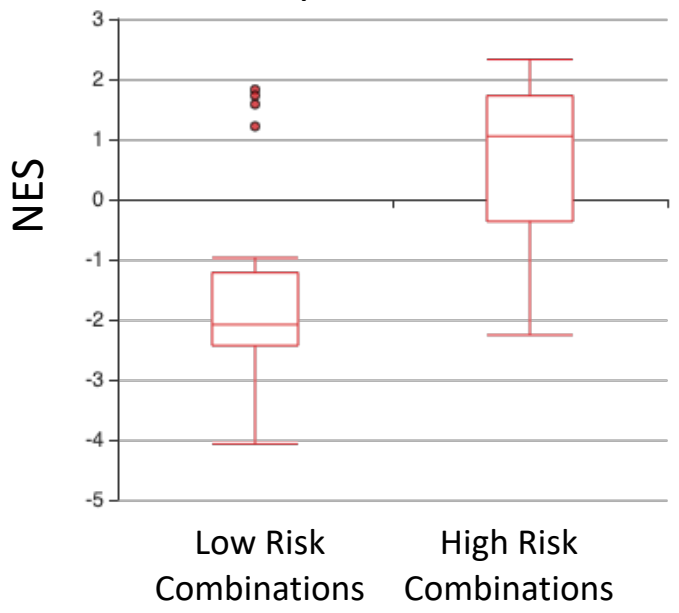
Figure S9B



Low Risk
HR < 1

High Risk
HR < 1

NABA
Basement Membranes
p=0.0009



NABA
Collagens
p=0.004

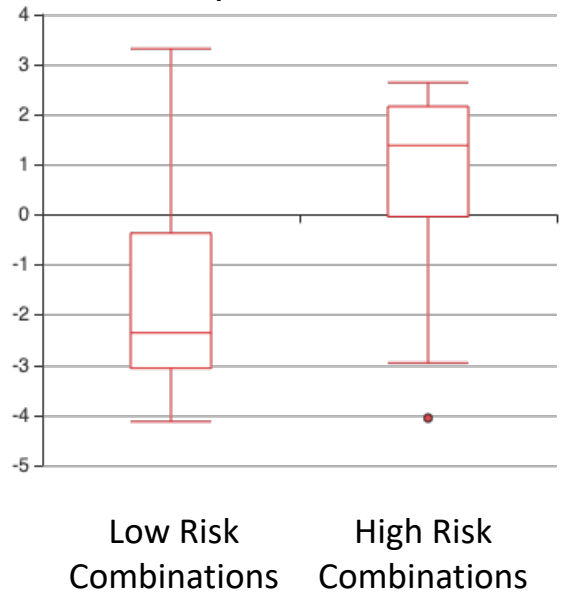


Figure S9C

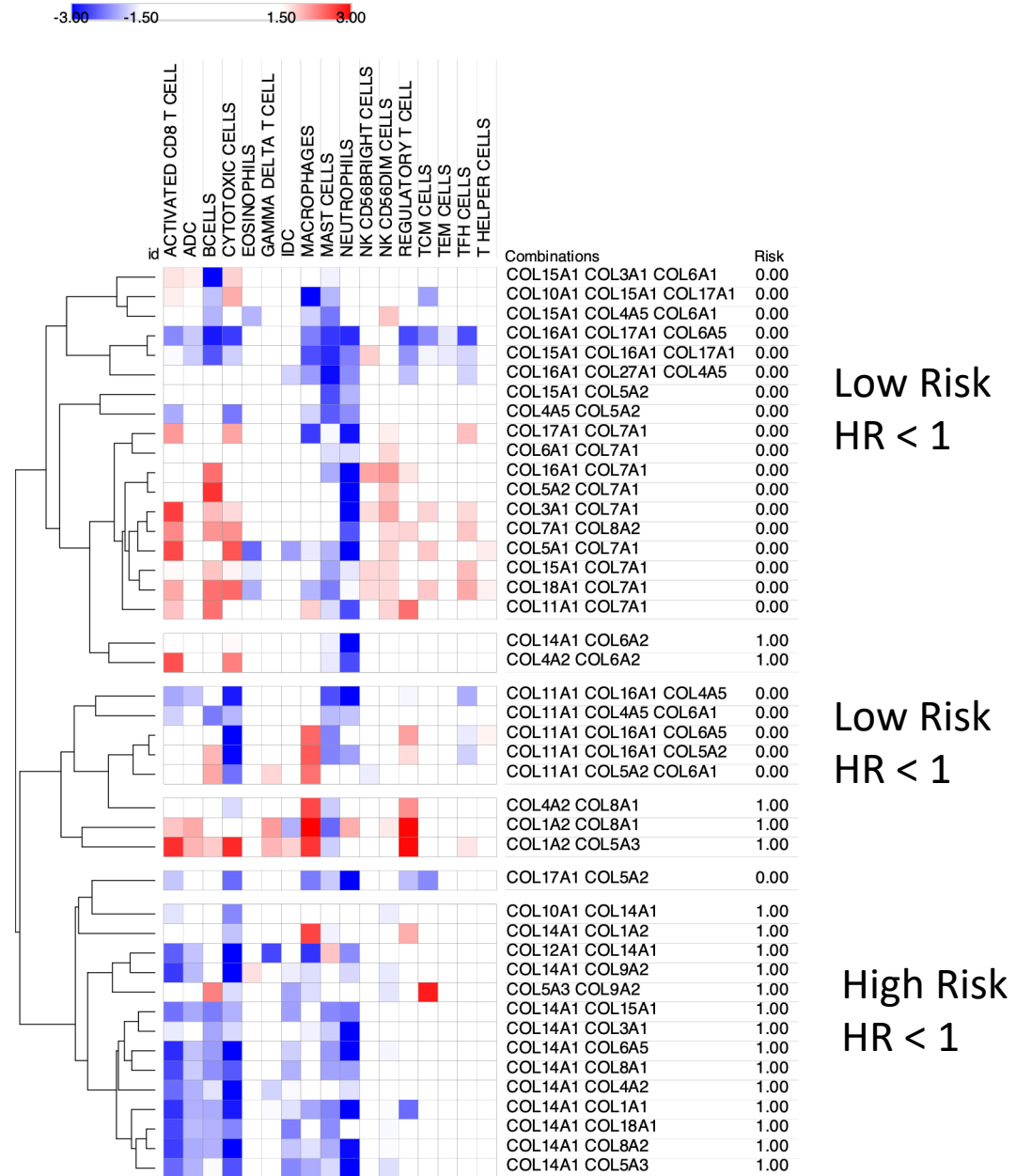
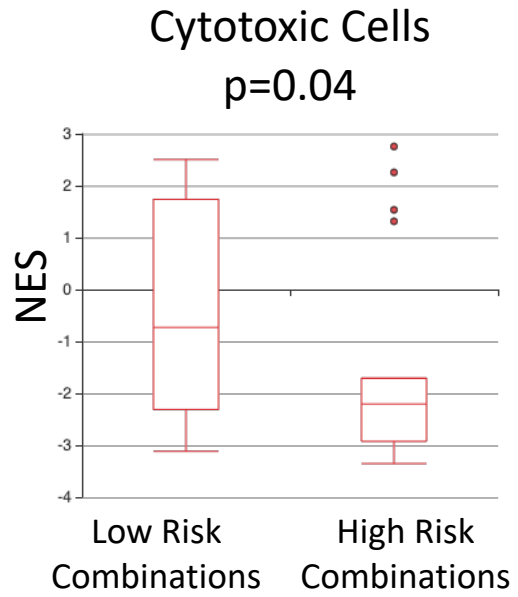
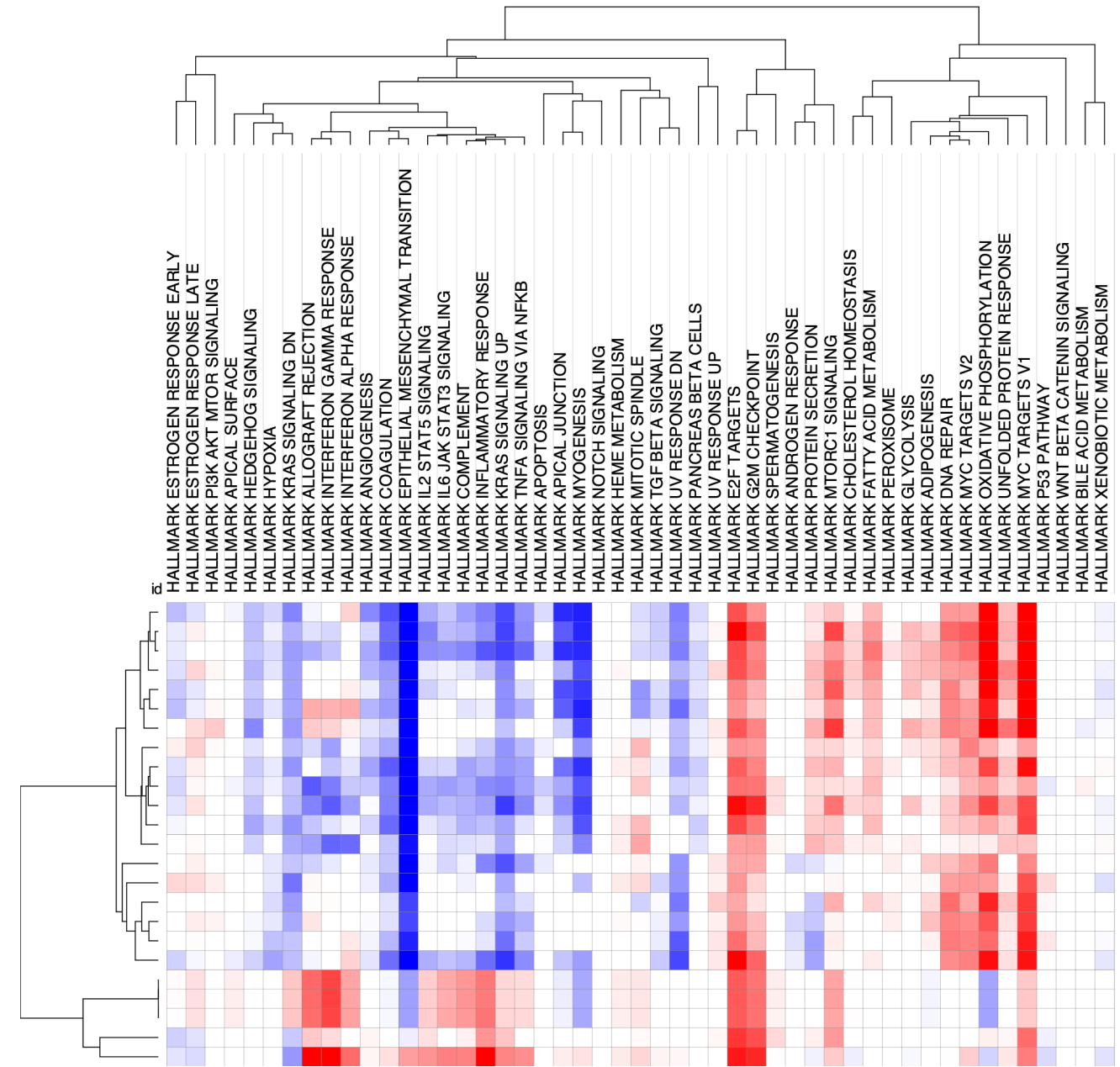
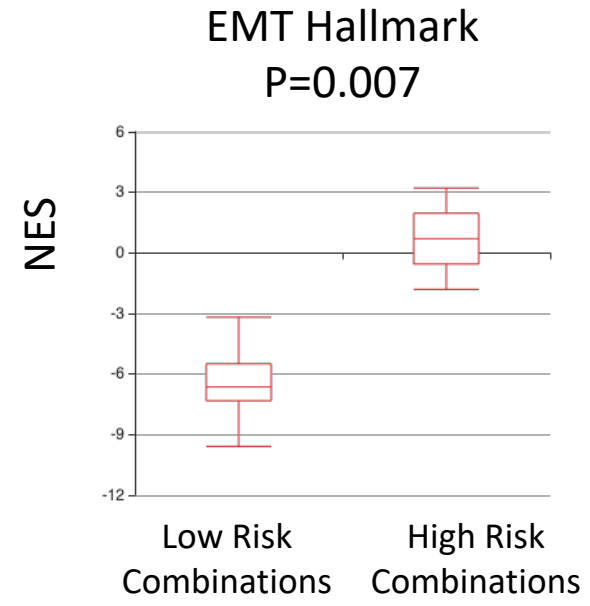
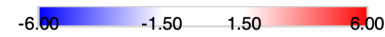


Figure S10A



Combinations	Risk
COL11A1 COL15A1 COL6A1	0.00
COL11A1 COL15A1 COL4A1	0.00
COL11A1 COL15A1 COL6A2	0.00
COL15A1 COL18A1 COL6A2	0.00
COL11A1 COL12A1 COL15A1	0.00
COL11A1 COL15A1 COL9A2	0.00
COL15A1 COL18A1 COL3A1	0.00
COL14A1 COL15A1 COL1A1	0.00
COL11A1 COL15A1 COL8A1	0.00
COL15A1 COL1A1 COL6A1	0.00
COL15A1 COL1A1 COL4A1	0.00
COL15A1 COL6A1 COL8A1	0.00
COL15A1 COL1A1 COL8A1	0.00
COL14A1 COL17A1 COL5A2	0.00
COL11A1 COL14A1 COL8A1	0.00
COL12A1 COL14A1 COL5A2	0.00
COL14A1 COL3A1 COL5A2	0.00
COL14A1 COL4A1 COL5A2	0.00
COL4A1 COL5A2 COL6A1	0.00
COL11A1 COL5A2	0.00
COL15A1 COL5A2	0.00
COL18A1 COL5A2	0.00
COL4A5 COL5A3 COL8A2	1.00
COL4A5 COL5A3 COL9A2	1.00

Figure S10B

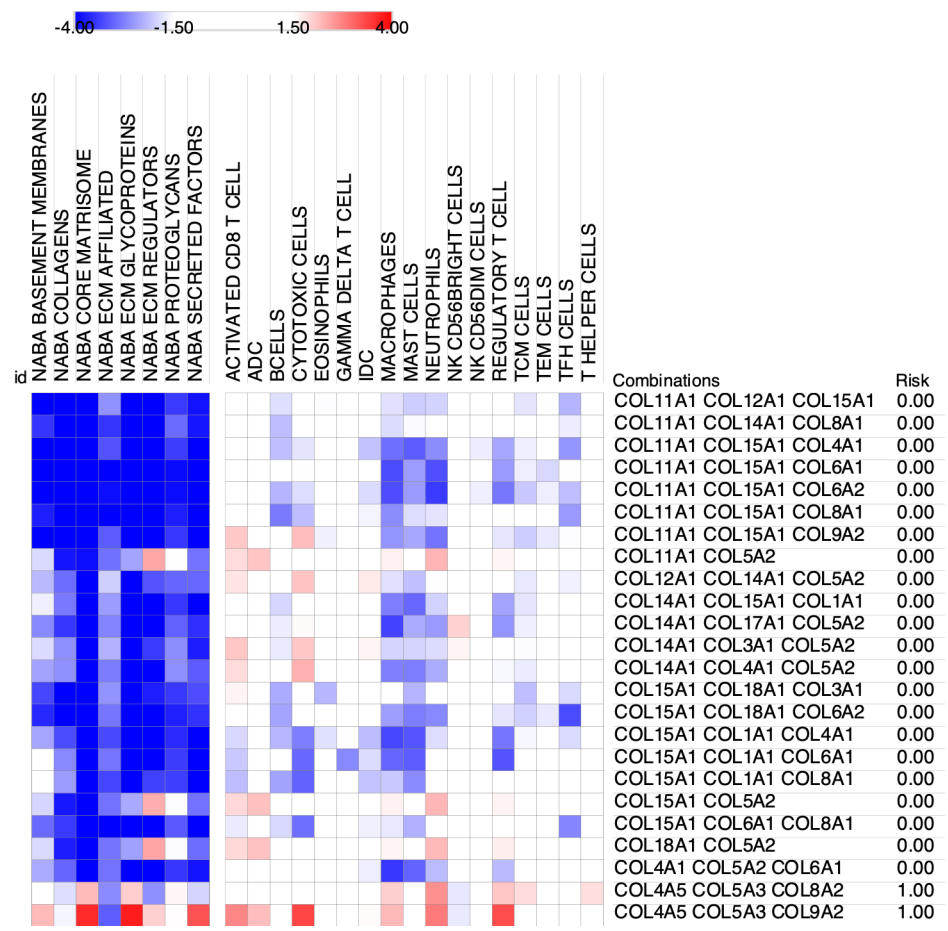
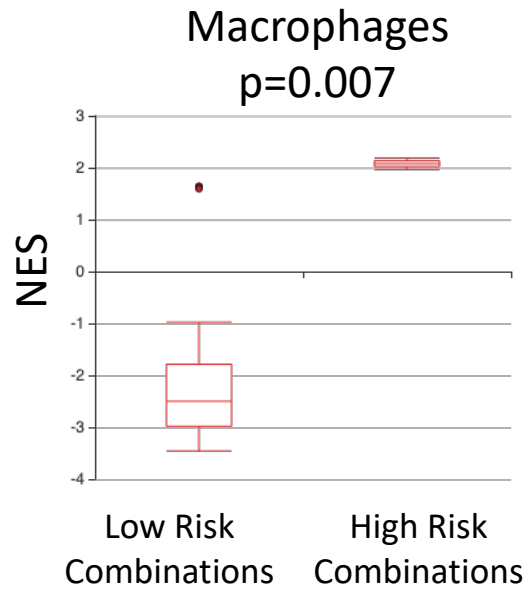
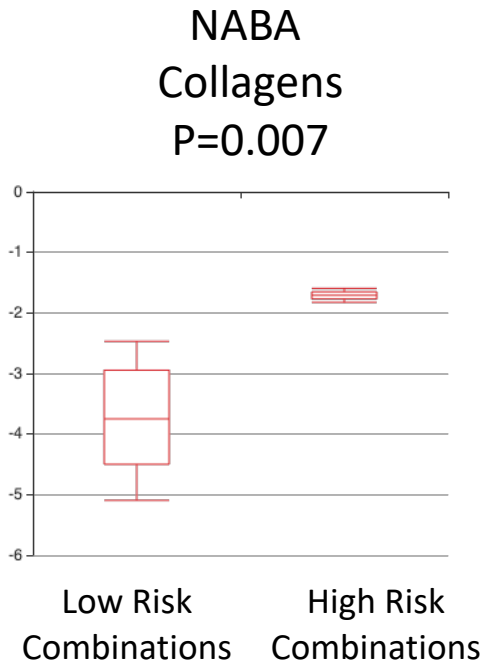
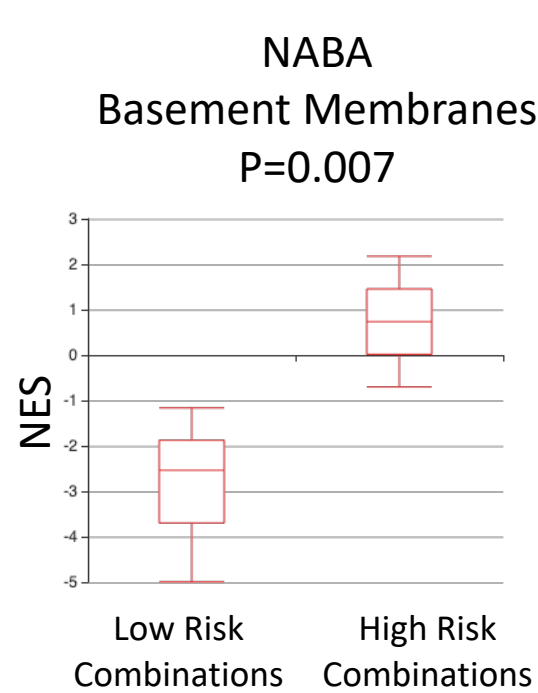
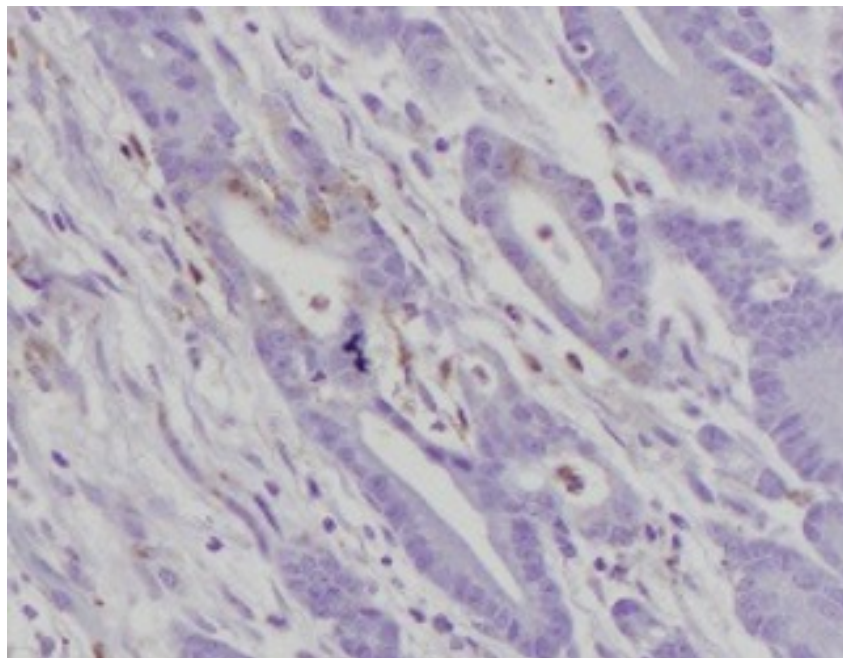


Figure S11A

A.



B.

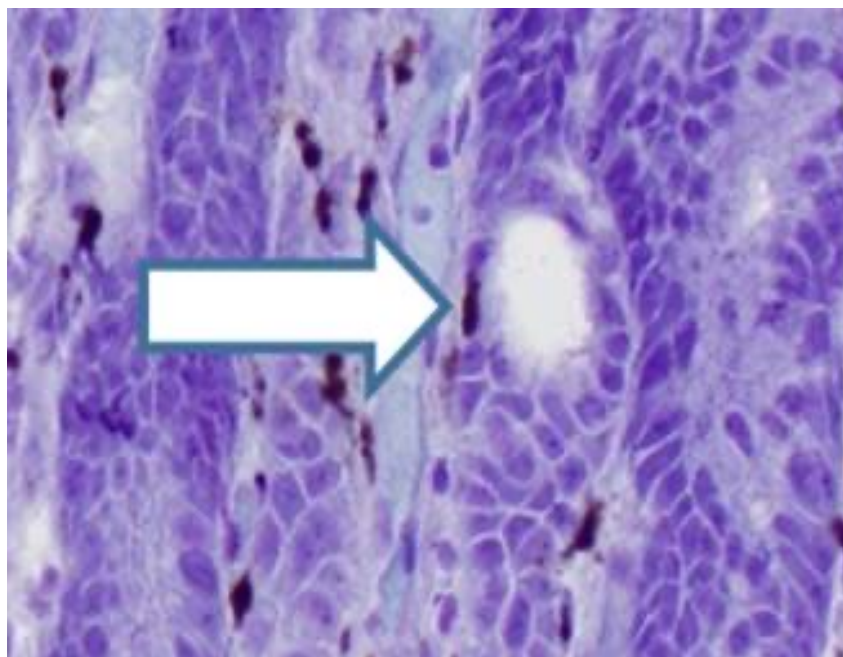
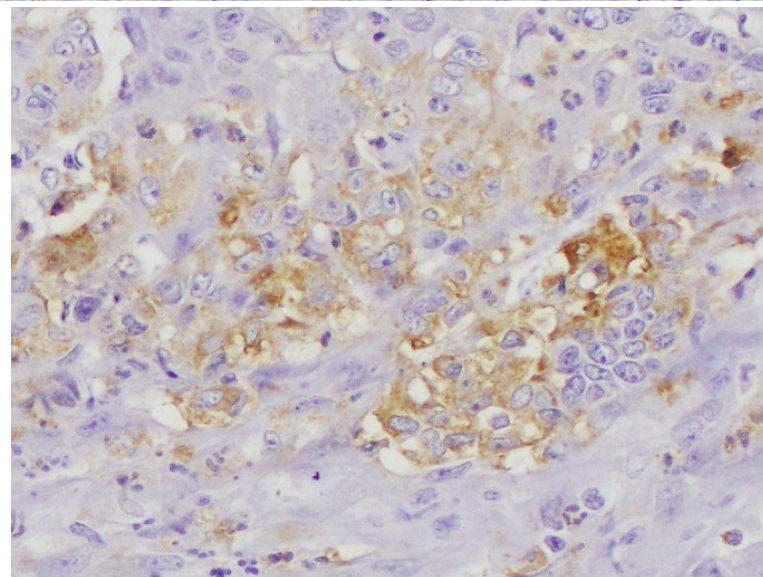
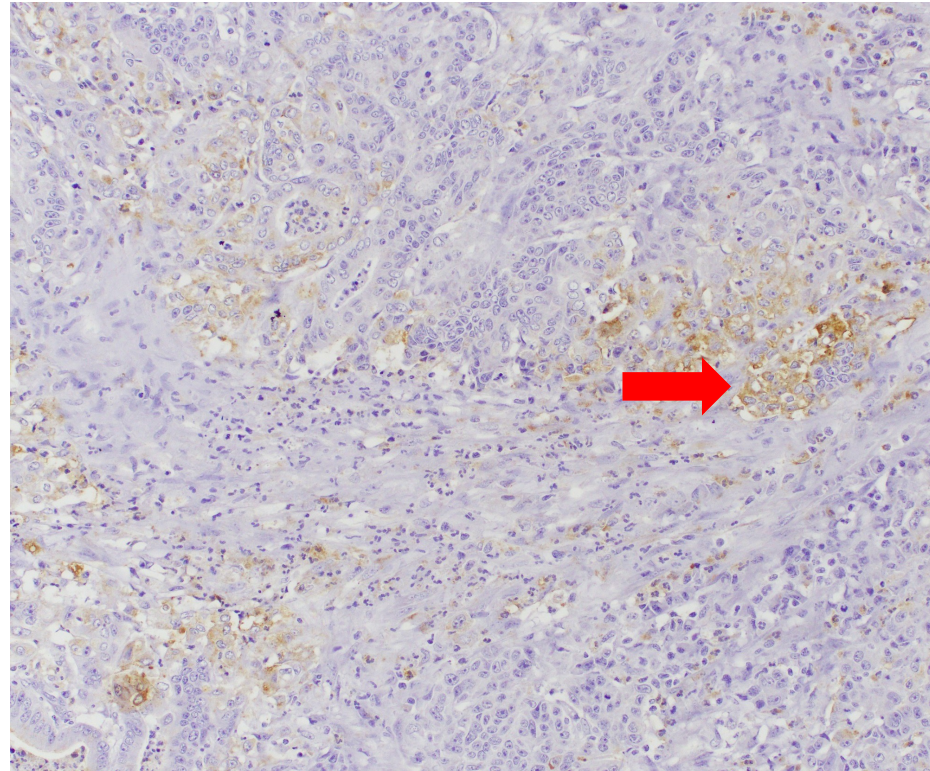
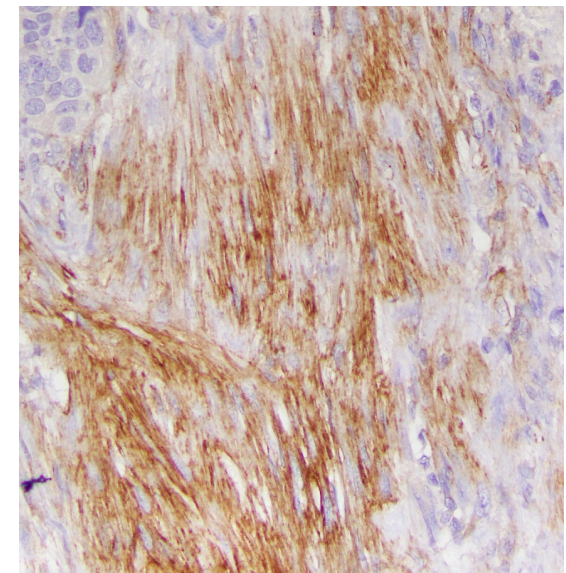
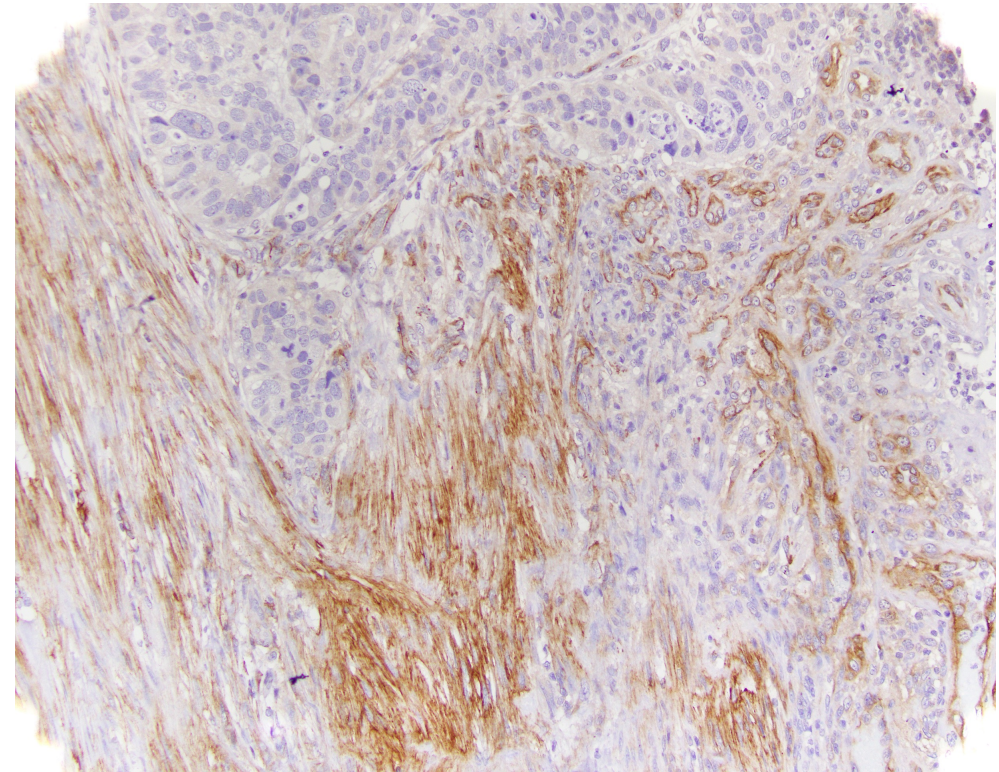


Figure S11B

COL7A1 Epithelium Expression



COL7A1 Stroma Expression



COL7 expression in normal skin

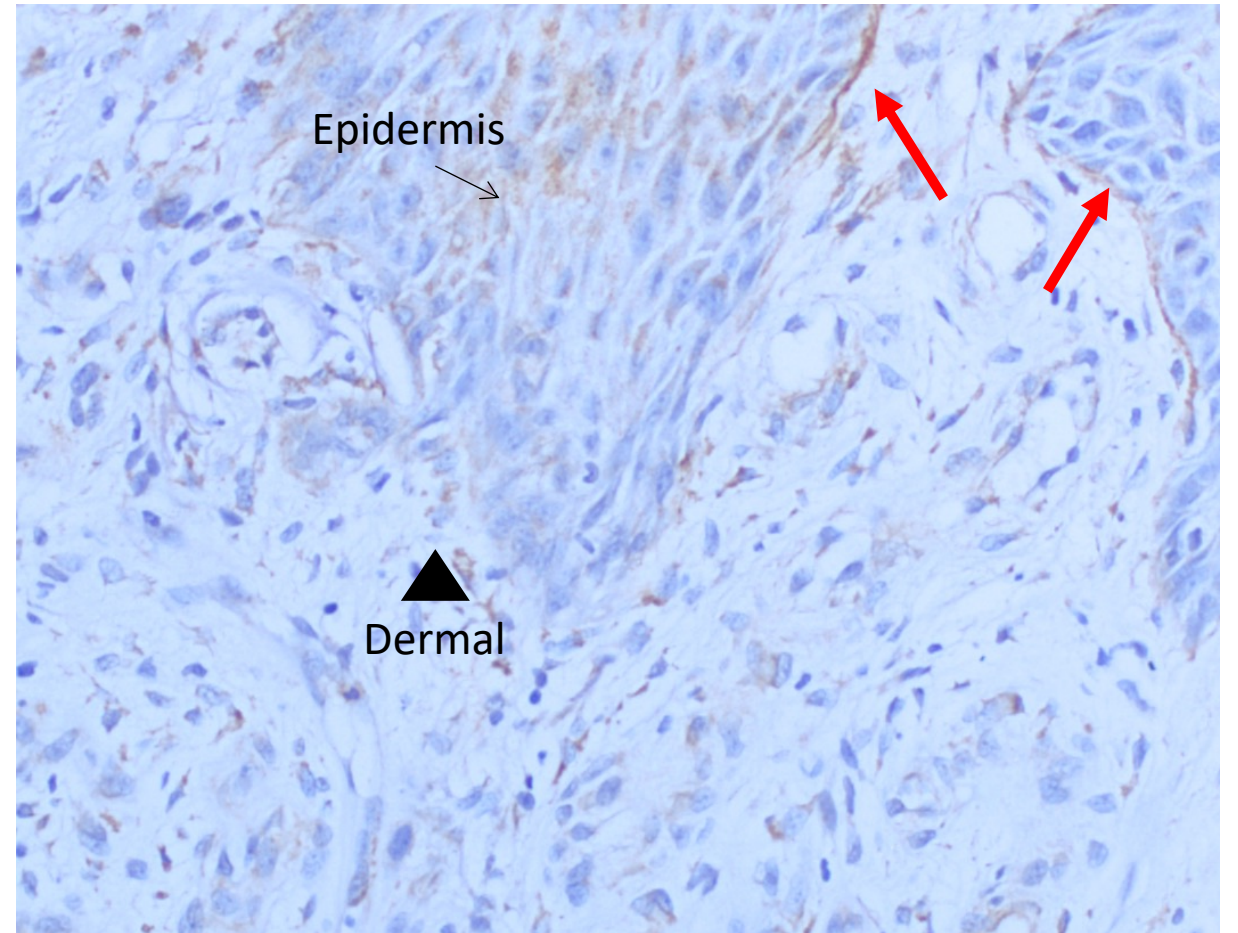


Figure S12A

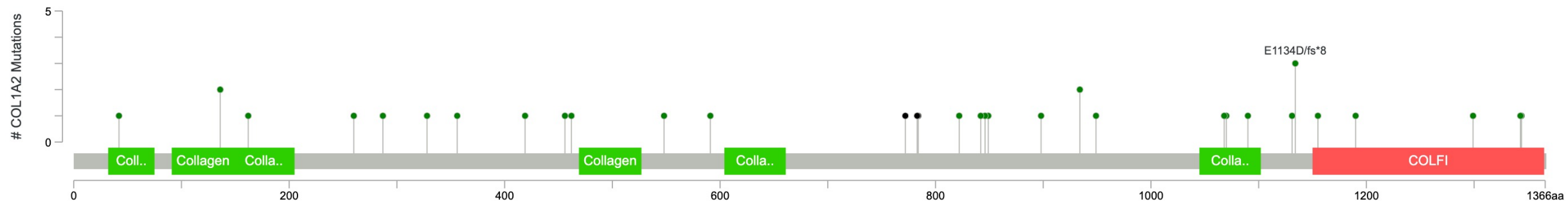
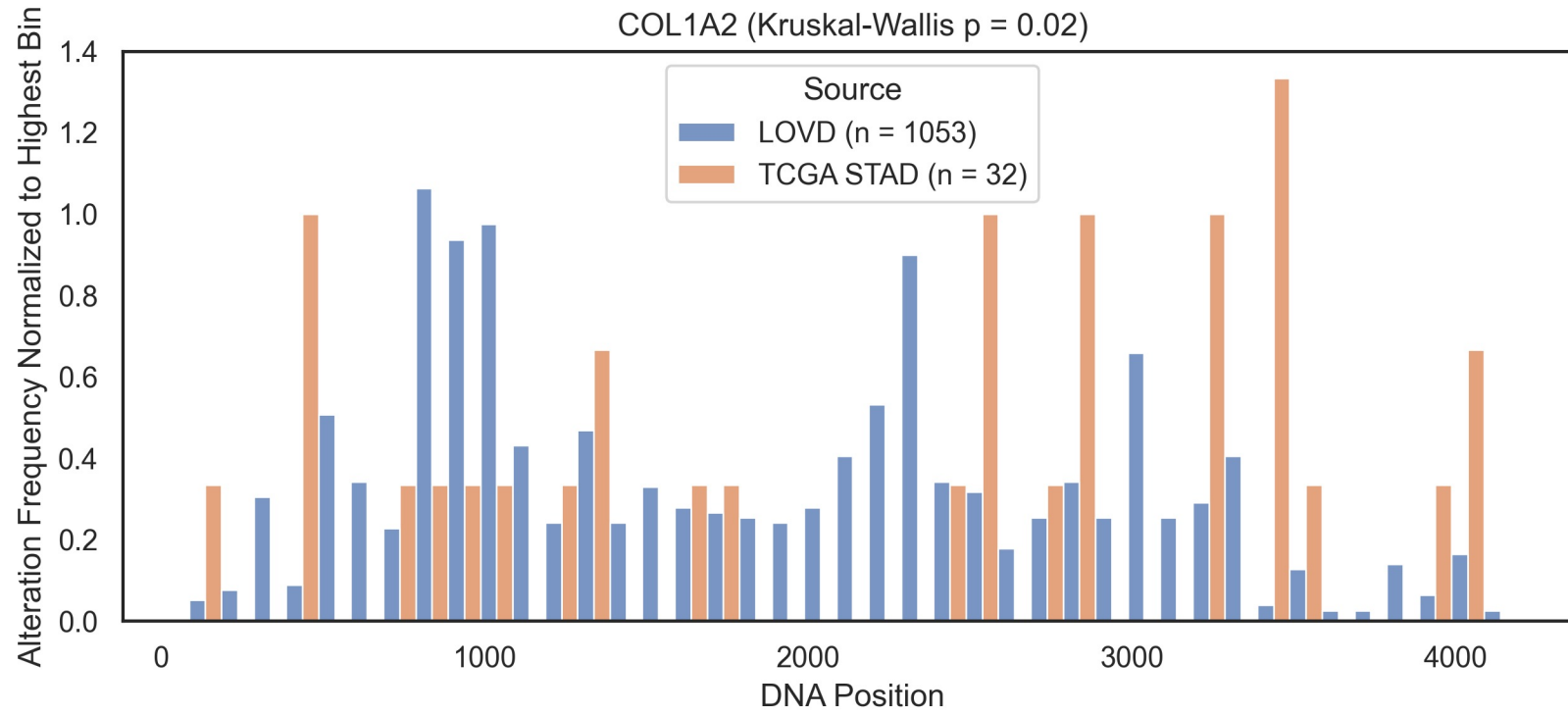


Figure S12B

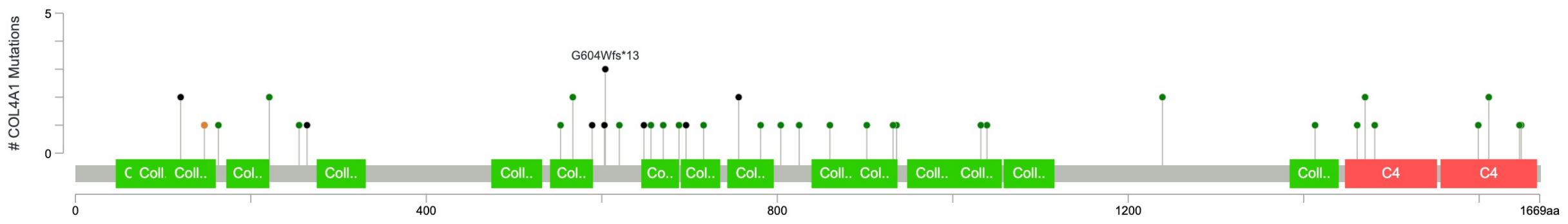
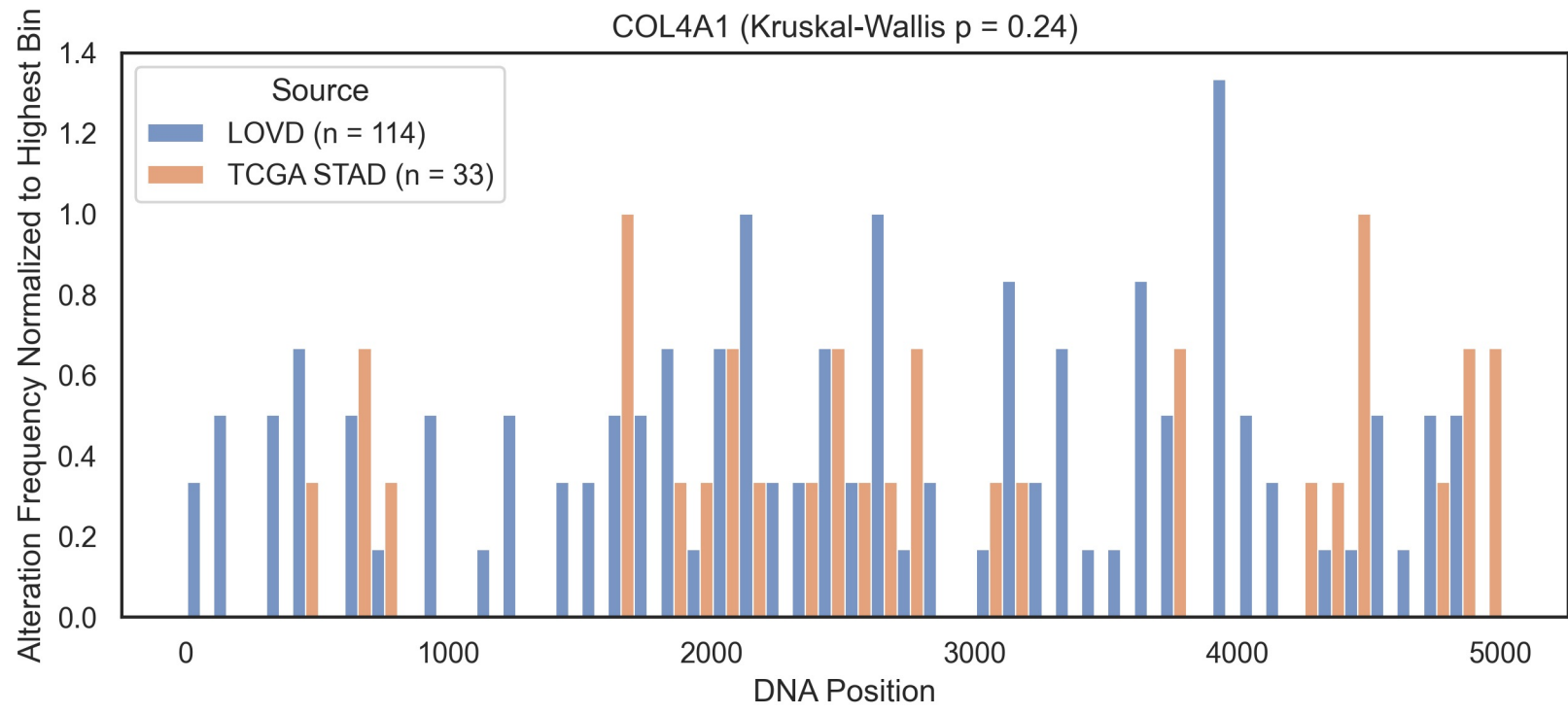


Figure S12B

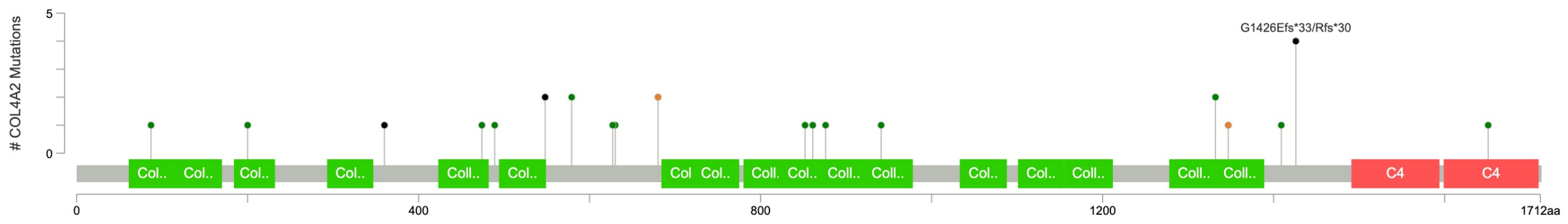
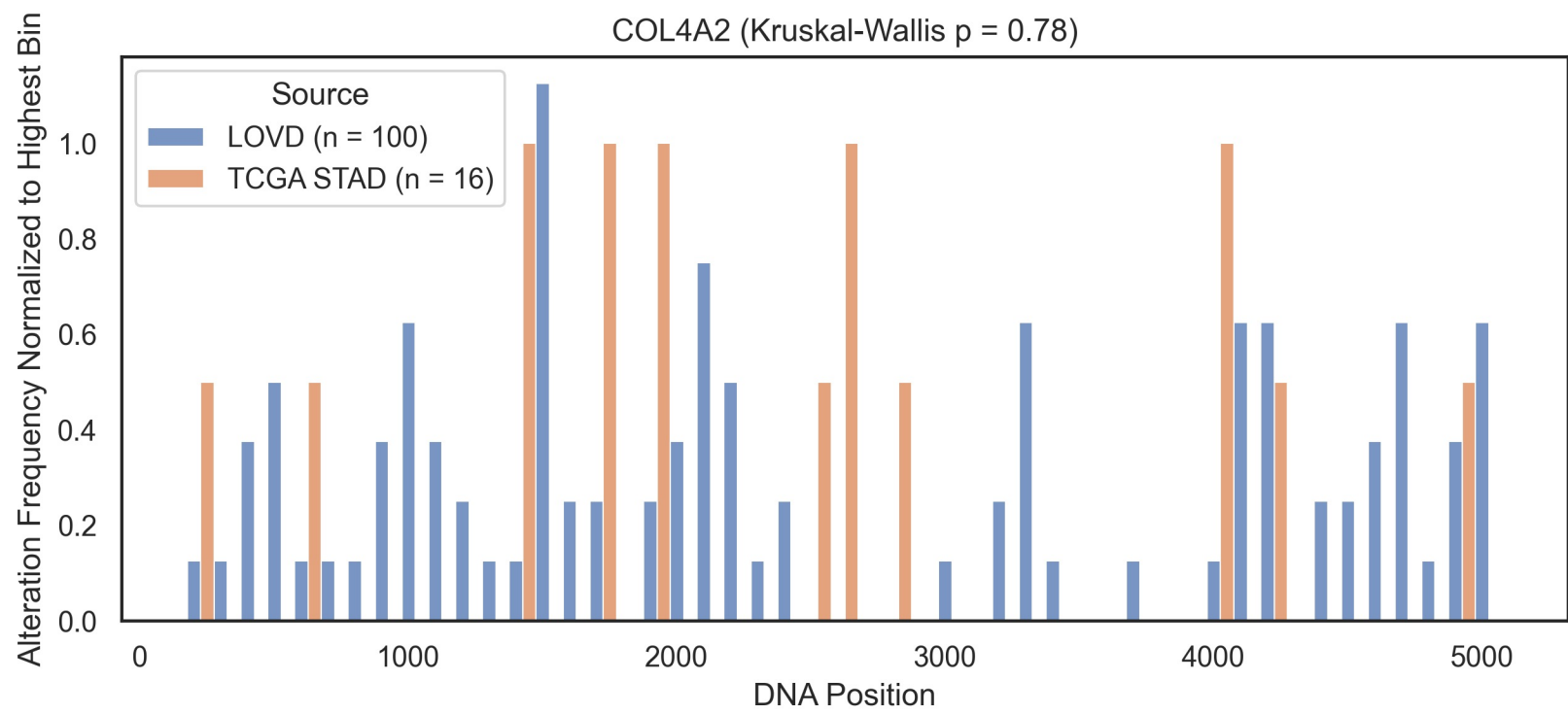


Figure S12C

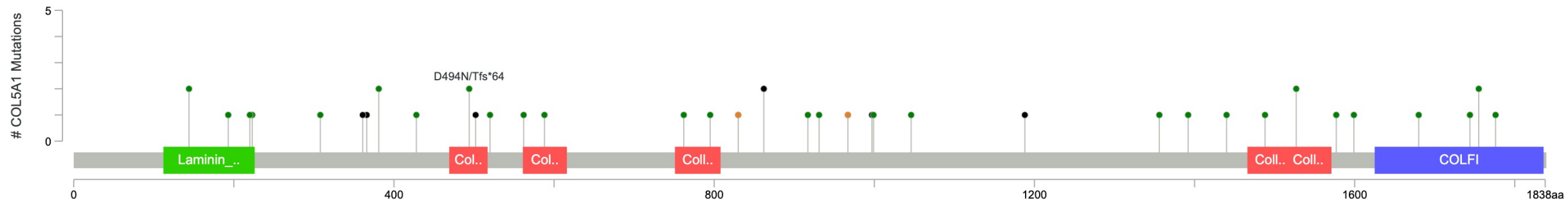
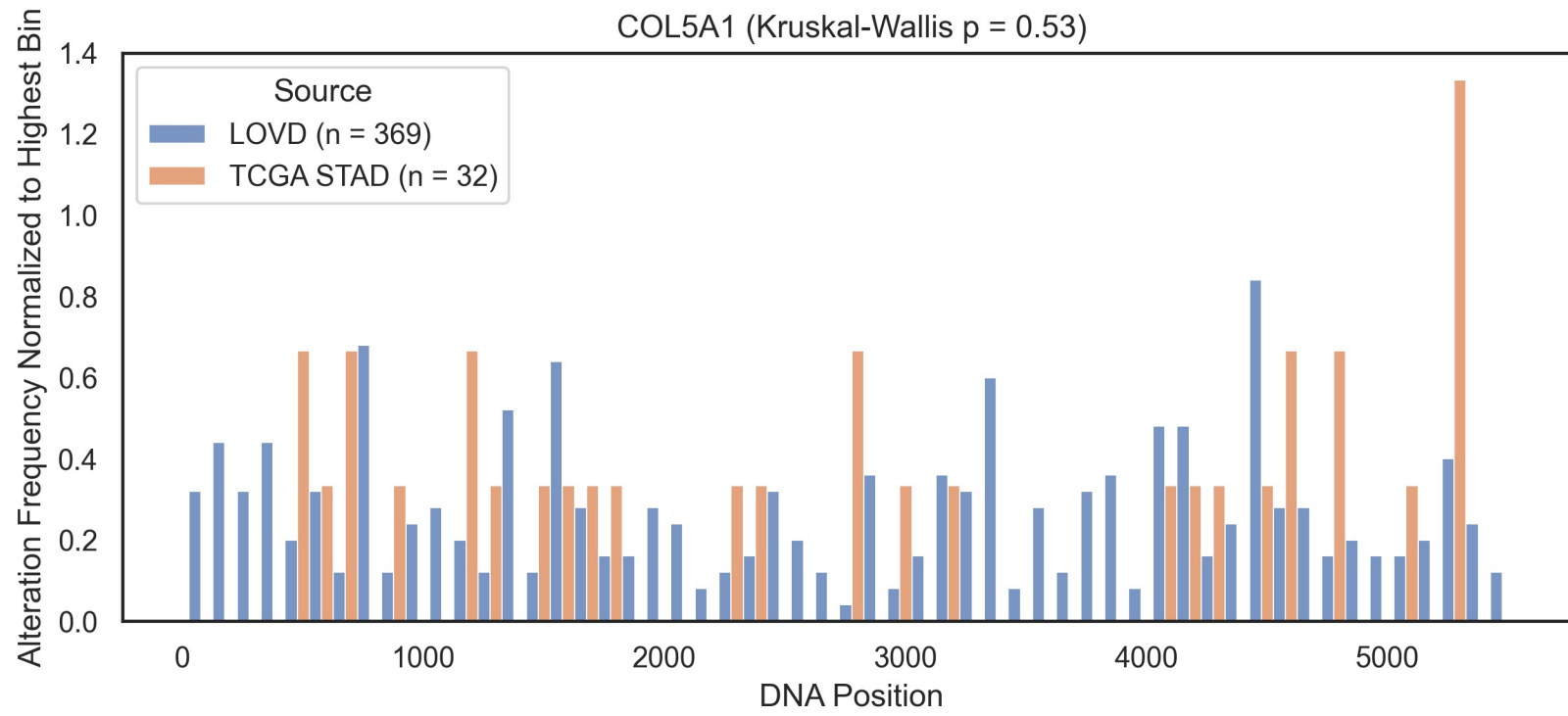


Figure S12C

