Mutually exclusive expression of COL11A1 by CAFs and tumour cells in a large panCancer and a salivary gland carcinoma cohort

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Supplementary table 1: Percentage of carcinomas from the panCancer cohort with CAFs<sub>COL11A1</sub> by histologic type. NST: no special type; SQC: squamous cell carcinoma; LCNEC: large cell neuroendocrine carcinoma; DLBCL: diffuse

| Organ   | Histology       | negative | positive | n   |
|---------|-----------------|----------|----------|-----|
| Prostate| adeno           | 96.0%    | 4.0%     | 25  |
|         | total           | 96.0%    | 4.0%     | 25  |
| Breast  | NST             | 14.3%    | 85.7%    | 14  |
|         | medullary       | 0.0%     | 100.0%   | 3   |
|         | lobular         | 33.3%    | 66.7%    | 3   |
|         | tubular         | 50.0%    | 50.0%    | 2   |
|         | mucinous        | 100.0%   | 0.0%     | 2   |
|         | total           | 25.0%    | 75.0%    | 24  |
| Lung    | adeno           | 78.6%    | 21.4%    | 14  |
|         | mucinous        | 100.0%   | 0.0%     | 1   |
|         | SQC             | 50.0%    | 50.0%    | 6   |
|         | LCNEC           | 66.7%    | 33.3%    | 3   |
|         | total           | 70.8%    | 29.2%    | 24  |
| Colon   | adeno           | 20.8%    | 79.2%    | 24  |
|         | total           | 20.8%    | 79.2%    | 24  |
| Cervix  | adeno           | 100.0%   | 0.0%     | 6   |
|         | SQC             | 77.8%    | 22.2%    | 18  |
|         | total           | 83.3%    | 16.7%    | 24  |
| Stomach | diffuse         | 62.5%    | 37.5%    | 8   |
|         | mixed           | 100.0%   | 0.0%     | 1   |
|         | intestinal      | 46.7%    | 53.3%    | 15  |
|         | total           | 54.2%    | 45.8%    | 24  |
| Liver   | hepatocellular  | 75.0%    | 25.0%    | 24  |
|         | total           | 75.0%    | 25.0%    | 24  |
| Uterus  | serous          | 50.0%    | 50.0%    | 2   |
|         | endometrioid    | 77.3%    | 22.7%    | 22  |
|         | total           | 75.0%    | 25.0%    | 24  |
| Ovary   | serous          | 64.3%    | 35.7%    | 14  |
|         | clear           | 50.0%    | 50.0%    | 2   |
|         | serous borderline| 100.0%  | 0.0%     | 3   |
|         | mucinous borderline | 100.0% | 0.0% | 4   |
|         | total           | 73.9%    | 26.1%    | 23  |
| Esophagus| adeno         | 63.2%    | 36.8%    | 19  |
|         | SQC             | 33.3%    | 66.7%    | 6   |
|         | total           | 56.0%    | 44.0%    | 25  |
| Lymphnode| DLBCL          | 80.0%    | 20.0%    | 5   |
|         | B-CLL           | 100.0%   | 0.0%     | 4   |
|         | MZL             | 100.0%   | 0.0%     | 2   |
|         | FL              | 100.0%   | 0.0%     | 4   |
|         | CHL nodular     | 100.0%   | 0.0%     | 2   |
|         | CHL mixed       | 100.0%   | 0.0%     | 2   |
|         | plasmocytoma    | 66.7%    | 33.3%    | 3   |
|         | T peripheral    | 100.0%   | 0.0%     | 1   |
|         | T angioimmun    | 100.0%   | 0.0%     | 1   |
|         | T NOS           | 100.0%   | 0.0%     | 1   |
|         | total           | 92.0%    | 8.0%     | 25  |
large B cell lymphoma; B-CLL: B cell chronic lymphatic leukemia; MZL: marginal zone lymphoma; FL: follicular lymphoma; CHL: classic Hodgkin lymphoma; T: T cell
| CAFs | COL11A1 score | 0 | 1 | 2 | 3 | p  | n | spearman coefficient |
|------|---------------|---|---|---|---|----|---|---------------------|
| Grade |               |   |   |   |   | 0.021 | 24 | 0.478               |
| G1   | 66.7%         | 33.3% | 0.0% | 0.0% | | | | |
| G2   | 57.1%         | 0.0% | 0.0% | 42.9% | | | | |
| G3   | 0.0%          | 21.4% | 42.9% | 35.7% | | | | |
| pT   |               |   |   |   |   | 0.125 | 24 | 0.323               |
| pT1  | 37.5%         | 25.0% | 12.5% | 25.0% | | | | |
| pT2  | 23.1%         | 15.4% | 30.8% | 30.8% | | | | |
| pT3  | 0.0%          | 0.0% | 0.0% | 100.0% | | | | |
| pT4  | 0.0%          | 0.0% | 50.0% | 50.0% | | | | |
| Ki 67 (%) | |   |   |   |   | 0.001 | 22 | 0.657               |
| 0-9%  | 66.7%         | 33.3% | 0.0% | 0.0% | | | | |
| 10-19% | 66.7%       | 0.0% | 0.0% | 33.3% | | | | |
| 20-29% | 0.0%         | 33.3% | 0.0% | 66.7% | | | | |
| 30-39% | 0.0%         | 0.0% | 50.0% | 50.0% | | | | |
| 40-49% | 0.0%         | 0.0% | 50.0% | 50.0% | | | | |
| 50-59% | 0.0%         | 0.0% | 0.0% | 0.0% | | | | |
| 60-69% | 0.0%         | 0.0% | 0.0% | 100.0% | | | | |
| 70-79% | 0.0%         | 0.0% | 50.0% | 50.0% | | | | |
| 80-89% | 0.0%         | 0.0% | 66.7% | 33.3% | | | | |
| 80-99% | 0.0%         | 0.0% | 0.0% | 0.0% | | | | |
| pN   |               |   |   |   |   | 0.554 | 23 | 0.133               |
| pN0  | 22.2%         | 22.2% | 22.2% | 33.3% | | | | |
| pN1  | 33.3%         | 0.0% | 33.3% | 33.3% | | | | |
| pN2  | 0.0%          | 0.0% | 50.0% | 50.0% | | | | |
| pN3  | 0.0%          | 0.0% | 0.0% | 0.0% | | | | |
| total | 21.7% (6)     | 17.4% (4) | 26.1% (6) | 34.8% (8) | | | | |

| histology | negative | positive | p  | n |
|-----------|----------|----------|----|---|
| NST       | 14.3%    | 85.7%    | 0.065 | 24 |
| medullary | 0.0%     | 100.0%   | | |
| lobular   | 33.3%    | 66.7%    | | |
| tubular   | 50.0%    | 50.0%    | | |
| mucinous  | 100.0%   | 0.0%     | | |
| AR (%)    | negative | positive | 0.462 | 13 |
| negative  | 0.0%     | 100.0%   | | |
| positive  | 28.6%    | 71.4%    | | |
| ER (%)    | negative | positive | 0.012 | 22 |
| negative  | 0.0%     | 100.0%   | | |
| positive  | 54.5%    | 45.5%    | | |
| PR (%)    | negative | positive | 0.137 | 22 |
| negative  | 14.3%    | 85.7%    | | |
| positive  | 50.0%    | 50.0%    | | |
| pT        | < pT3    | >= pT3   | 0.546 | 24 |
| < pT3     | 28.6%    | 71.4%    | | |
| >= pT3    | 0.0%     | 100.0%   | | |
| pN        | pN-      | pN+      | 1    | 23 |
| pN-       | 22.2%    | 77.8%    | | |
| pN+       | 20.0%    | 80.0%    | | |
| L         | L0       | L1       | 1    | 23 |
| L0        | 22.2%    | 77.8%    | | |
| L1        | 20.0%    | 80.0%    | | |
| V         | V0       | V1       | NA   | 21 |
| V0        | 19.0%    | 81.0%    | | |
| V1        | 0.0%     | 0.0%     | | |
| Pn        | Pn0      | Pn1      | NA   | 21 |
| Pn0       | 100.0%   | 0.0%     | | |
| Pn1       | 0.0%     | 0.0%     | | |
| total     | 25 (6)   | 75 (18)  | | |
Supplementary table 2: Percentage of breast carcinomas with correlations of CAF<sup>COL11A1</sup> and clinicopathological features. Upper half: CAF<sup>COL11A1</sup> score in relation to ordinally scaled pathological attributes. Lower half: Comparison of negative (Score 0) and positive (Score >0) cases with respect to nominally scaled clinicopathological parameters. Given as percentage, absolute numbers in brackets. P values below 0.05 are indicated in bold type. p values below 0.1 are marked in italic. P values of the lower half were calculated with fisher’s exact test.
| CAF<sub>SCOLHAI</sub> score | 0 | 1 | 2 | 3 | 4 | p  | n  | spearman coefficient |
|----------------------------|---|---|---|---|---|----|----|----------------------|
| Grade                      |   |   |   |   |   |    |    |                      |
| G1                         | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.122 | 15 | 0.466 |
| G2                         | 85.7% | 0.0% | 14.3% | 0.0% | 0.0% |        |    |        |
| G3                         | 42.9% | 14.3% | 28.6% | 14.3% | 0.0% |        |    |        |
| pT                         |   |   |   |   |   |    |    |                      |
| pT1                        | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% |        |    |        |
| pT2                        | 75.0% | 0.0% | 25.0% | 0.0% | 0.0% |        |    |        |
| pT3                        | 75.0% | 0.0% | 25.0% | 0.0% | 0.0% | 0.052 | 23 | 0.419 |
| pT4a                       | 83.3% | 16.7% | 0.0% | 0.0% | 0.0% |        |    |        |
| pT4b                       | 25.0% | 25.0% | 25.0% | 25.0% | 0.0% |        |    |        |
| N                          |   |   |   |   |   |    |    |                      |
| pN0                        | 78.6% | 7.1% | 14.3% | 0.0% | 0.0% |        |    |        |
| pN1                        | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% | 0.390 | 23 | 0.185 |
| pN2                        | 60.0% | 0.0% | 20.0% | 20.0% | 0.0% |        |    |        |
| CD8                        |   |   |   |   |   |    |    |                      |
| 0                          | 87.5% | 0.0% | 12.5% | 0.0% | 0.0% |        |    |        |
| 1                          | 75.0% | 8.3% | 8.3% | 8.3% | 0.0% | 0.282 | 24 | 0.249 |
| 2                          | 50.0% | 25.0% | 25.0% | 0.0% | 0.0% |        |    |        |
| total                      | 75 (18) | 8.3 (2) | 12.5 (3) | 4.2 (1) | 0 (0) |        |    |        |
| negative                   |   |   |   |   |   |    |    |                      |
| positive                   |   |   |   |   |   |    |    |                      |
| pT                         | <pT3 | 80.0% | 20.0% |        |    | 0.653 | 24 |        |
| pN                         | pN- | 73.3% | 26.7% | 1 | 24 |        |    |        |
| pN+                        | 66.7% | 33.3% |        |    |    |        |    |        |
| V                          | V0  | 70.6% | 29.4% |        |    | 0.333 | 18 |        |
| V1                         | 0.0% | 100.0% |        |    |    |        |    |        |
| L                          | L0  | 66.7% | 33.3% | NA | 18 |        |    |        |
| L1                         | 0.0% | 0.0% |        |    |    |        |    |        |
| Pn                         | Pn0 | 92.3% | 7.7% |        |    | 0.007 | 20 |        |
| Pn1                        | 28.6% | 71.4% |        |    |    |        |    |        |
| Age                        | < 65y | 80.0% | 20.0% |        |    | 0.113 | 25 |        |
| 65y                        | 40.0% | 60.0% |        |    |    |        |    |        |
| Sex                        | women | 68.8% | 31.3% | 1 | 25 |        |    |        |
| men                        | 77.8% | 22.2% |        |    |    |        |    |        |
| TP53                       | wildtype | 88.9% | 11.1% |        |    | 0.003 | 24 |        |
| mutated                    | 16.7% | 83.3% |        |    |    |        |    |        |
| CD8                        | not inflamed | 76.2% | 23.8% |        |    | 0.548 | 25 |        |
| inflamed                   | 50.0% | 50.0% |        |    |    |        |    |        |
| total                      | 72.0 (18) | 28.0 (7) |        |    |    |        |    |        |
**Supplementary table 3**: Percentage of adenoid cystic carcinomas with correlations CAF\textsubscript{COL11A1} and clinicopathological features. Upper half: CAF\textsubscript{COL11A1} score in relation to ordinally scaled pathological attributes. Lower half: Comparison of negative (Score 0) and positive (Score >0) cases with respect to nominally scaled clinicopathological parameters. Given as percentage. Absolute numbers in brackets. P values below 0.05 are indicated in bold type. P values below 0.1 are marked in italic. P values of the lower half were calculated with fisher’s exact test.

| Entity           | CAF\textsubscript{COL11A1} in cases with nodal metastasis | n (%) |
|------------------|-------------------------------------------------------------|-------|
| Acin             | 1 (7.1)                                                     |       |
| ANOS             | 3 (21.4)                                                    |       |
| MuEp             | 2 (14.3)                                                    |       |
| SaDu             | 8 (57.1)                                                    |       |
| Status           |                                                             |       |
| both positive    | 5 (35.7)                                                    |       |
| both negative    | 2 (14.3)                                                    |       |
| different        |                                                             |       |
| Primary positive | 5 (35.7)                                                    |       |
| Metastasis positive |                                                          |       |

**Supplementary table 4**: Concordance of CAF\textsubscript{COL11A1} positivity between primaries and lymphnode metastases for salivary gland carcinomas. Acin: acinic cell carcinoma; ANOS: adenocarcinoma not otherwise specified; MuEp: mucoepidermoid carcinoma; SaDu: salivary duct carcinoma

| SGC Type                      | TC\textsubscript{COL11A1} | n  |
|-------------------------------|---------------------------|----|
| Myoepithelial                 | 42.2                      | 4  |
| Epithelial-Myoepithelial      | 29.6                      | 6  |
| Basal cell                    | 16.9                      | 4  |
| Adeno NOS                     | 14.6                      | 6  |
| Adenoidcystic                 | 13.5                      | 25 |
| Acinic cell                   | 10.6                      | 10 |
| Mucoepidermoid                | 1.2                       | 29 |
| Secretory                     | 0.1                       | 7  |
| Salivary duct                 | 0.0                       | 19 |
| Mean overall                  | 8.9                       |    |

**Supplementary table 5**: Mean percentage of TC\textsubscript{COL11A1} per SGC type.