

## Supplementary material

■ Combination vs constituent single protein

■ Combination of three vs constituent combination of two

A

|           | Uncoated | Vt | CI | Lm | Fn | CIV | Fn+CI | Fn+Vt | Fn+Lm | Fn+CIV | Vt+Lm | Vt+CIV | Lm+CI | Vt+Lm+CIV |
|-----------|----------|----|----|----|----|-----|-------|-------|-------|--------|-------|--------|-------|-----------|
| Uncoated  |          | ns | ns | ns | ** | **  | ns    | **    | ns    | **     | ns    | **     | ns    | **        |
| Vt        | ns       |    | ns | ns | ** | *   | ns    | **    | ns    | *      | ns    | **     | ns    | **        |
| CI        | ns       | ns |    | ns | ** | **  | ns    | **    | *     | **     | ns    | **     | ns    | **        |
| Lm        | ns       | ns | ns |    | ** | ns  | ns    | **    | ns    | ns     | ns    | **     | ns    | **        |
| Fn        | **       | ** | ** | ** |    | **  | **    | ns    | *     | ns     | **    | ns     | **    | ns        |
| CIV       | **       | *  | ** | ns | ** |     | ns    | **    | ns    | ns     | ns    | **     | **    | **        |
| Fn+CI+Vt  | ns       | ns | ns | ns | ** | ns  | ns    | **    | *     | **     | ns    | **     | ns    | **        |
| Fn+CI+Lm  | ns       | ns | ns | ns | ** | ns  | ns    | **    | *     | **     | ns    | **     | ns    | **        |
| Fn+Vt+Lm  | ns       | ns | ns | ns | ** | ns  | ns    | **    | ns    | ns     | ns    | ns     | ns    | ns        |
| Fn+CIV+Vt | **       | ** | ** | ** | ns | **  | **    | ns    | *     | ns     | **    | ns     | **    | ns        |
| Fn+CIV+Lm | *        | ns | ** | ns | ns | ns  | **    | **    | ns    | ns     | ns    | ns     | **    | ns        |
| Vt+Lm+CIV | **       | ** | ** | ** | ns | **  | **    | ns    | ns    | ns     | **    | ns     | **    | **        |

B

|           | Uncoated | Vt | CI | Lm | Fn | CIV | Fn+CI | Fn+Vt | Fn+Lm | Fn+CIV | Vt+Lm | Vt+CIV | Lm+CI | Vt+Lm+CIV |
|-----------|----------|----|----|----|----|-----|-------|-------|-------|--------|-------|--------|-------|-----------|
| Uncoated  |          | ns | ns | ns | ** | **  | ns    | **    | **    | **     | ns    | **     | ns    | **        |
| Vt        | ns       |    | ns | *  | ** | **  | ns    | **    | **    | **     | ns    | **     | ns    | **        |
| CI        | ns       | ns |    | ns | ns | **  | ns    | **    | *     | **     | ns    | *      | *     | **        |
| Lm        | ns       | *  | ns |    | ns | **  | ns    | **    | ns    | **     | **    | ns     | **    | *         |
| Fn        | **       | ** | ns | ns |    | *   | *     | **    | ns    | ns     | **    | ns     | **    | ns        |
| CIV       | **       | ** | ** | ** | *  |     | **    | *     | ns    | ns     | **    | ns     | **    | ns        |
| Fn+CI+Vt  | ns       | *  | ns | ns | ns | **  | ns    | **    | ns    | **     | **    | ns     | **    | *         |
| Fn+CI+Lm  | ns       | ns | ns | ns | ns | **  | ns    | **    | ns    | **     | *     | ns     | **    | **        |
| Fn+Vt+Lm  | **       | ** | *  | ns | ns | ns  | **    | **    | ns    | ns     | **    | ns     | **    | ns        |
| Fn+CIV+Vt | **       | ** | ** | *  | ns | ns  | **    | **    | ns    | ns     | **    | ns     | **    | ns        |
| Fn+CIV+Lm | **       | ** | ** | *  | ns | ns  | **    | **    | ns    | ns     | **    | ns     | **    | ns        |
| Vt+Lm+CIV | **       | ** | ** | *  | ns | ns  | **    | **    | ns    | ns     | **    | ns     | **    | **        |

C

|           | Uncoated | Vt | CI | Lm | Fn | CIV | Fn+CI | Fn+Vt | Fn+Lm | Fn+CIV | Vt+Lm | Vt+CIV | Lm+CI | Vt+Lm+CIV |
|-----------|----------|----|----|----|----|-----|-------|-------|-------|--------|-------|--------|-------|-----------|
| Uncoated  |          |    |    |    |    |     |       |       |       |        |       |        |       |           |
| Vt        |          |    |    |    |    |     |       |       |       |        |       |        |       |           |
| CI        |          |    |    |    |    |     |       |       |       |        |       |        |       |           |
| Lm        |          |    |    |    |    |     |       |       |       |        |       |        |       |           |
| Fn        |          |    |    |    |    |     |       |       |       |        |       |        |       |           |
| CIV       |          |    |    |    |    |     |       |       |       |        |       |        |       |           |
| Fn+CI+Vt  |          |    |    |    |    |     |       |       |       |        |       |        |       |           |
| Fn+CI+Lm  |          |    |    |    |    |     |       |       |       |        |       |        |       |           |
| Fn+Vt+Lm  |          |    |    |    |    |     |       |       |       |        |       |        |       |           |
| Fn+CIV+Vt |          |    |    |    |    |     |       |       |       |        |       |        |       |           |
| Fn+CIV+Lm |          |    |    |    |    |     |       |       |       |        |       |        |       |           |
| Vt+Lm+CIV |          |    |    |    |    |     |       |       |       |        |       |        |       |           |

D

| Surfaces compared  | % correlation |
|--|---------------|
| All ECM protein combinations   | 69.57         |
| Two different single protein coated surfaces                               | 73.33         |
| A single protein coated surface with a surface coated with two proteins    | 69.05         |
| A single protein coated surface with a surface coated with three proteins  | 63.89         |
| A surface coated with three proteins and surface coated with two proteins. | 64.29         |

- 5 **Table 1.** To fully analyze the role of individual proteins versus their combinations on transgene expression (A) and area (B), statistical analysis was done using the Dunnett Multiple comparison test. Each condition was compared with all combinations inclusive of Fn and exclusive of Fn. The symbols \*, \*\* and \*\* represent the significant difference in transgene expression or cell area between two different surfaces to the level of  $p < 0.05$ ,  $p < 0.01$  and  $p < 0.001$ , respectively. The symbols 'ns' represents no significant difference in transgene expression or cell area between two different surfaces. (C)
- 10 The correlation between extent of spreading and transgene expression observed was analyzed. ■ represents that a significant difference in cell area corresponded with a significant difference in transgene expression, and no significant difference in cell area corresponded with no significant difference in transgene expression between the two surface compared. ■ represents no correlation in statistical difference in cell area with transgene expression on two different protein coated surfaces. (D) Correlation between extent of spreading and transgene expression