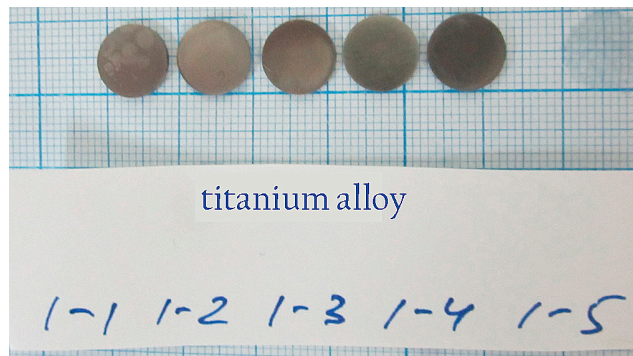
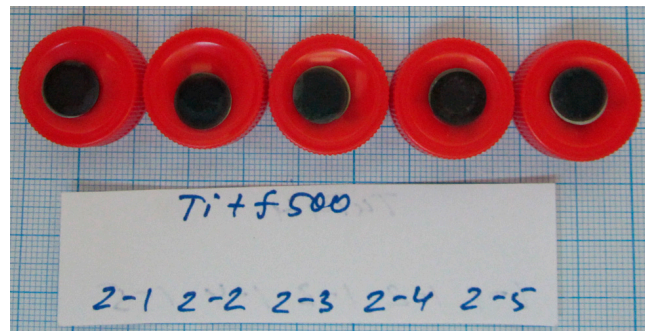


Supplementary Materials

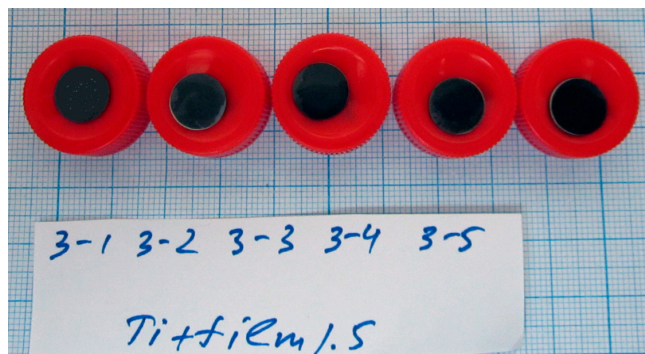
A



B



C



D

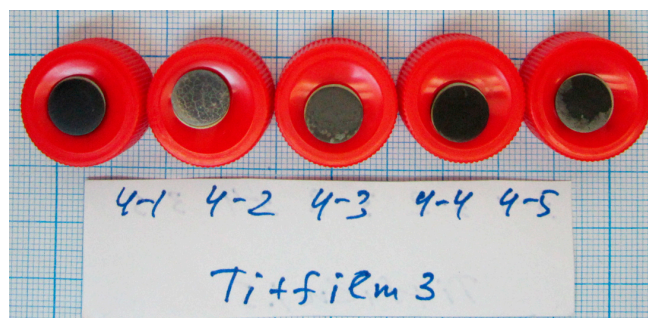


Figure S1. Ti-6Al-4V substrate surface after five-week *in vitro* immersion in 0.9% NaCl solution: A – uncoated, B – 0.5 µm, C – 1.5 µm, D – 3 µm film thickness.

Table S1. Na⁺ concentrations (mmol) in 0.9% NaCl solution during five-week in vitro contact with test substrates, *Me(Q1; Q3)*, *n*₁=15.

Group number	Substrates	Na ⁺ concentration in solution, mmol				
		After 1 week	After 2 weeks	After 3 weeks	After 4 weeks	After 5 weeks
1	0.9 % NaCl reference solution	155.1 (136.5; 158.2)	155.8 (154.5; 156.4)	155.1 (153.7; 156.0)	156.5 (155.5; 157.3)	156.1 (154.6; 157.1)
2	Uncoated Ti-6Al-4V	157.7 (156.5; 157.9)	157.4 (156.7; 158.2)	156.2 (155.2; 156.6)	157.1 (122.8; 157.5)	158.6 (158.0; 159.5)
3	a-C:H:SiO _x -coated 0.5-μm thick film	153.9 (94.9; 157.5)	157.4 (157.3; 157.9)	158.2* <i>P</i> _{U1} <0.05	158.2 <i>P</i> _{U1} <0.05	155.1*** (111.5; 158.6)
4	a-C:H:SiO _x -coated 1.5-μm thick film	158.2 (157.3; 159.5)	156.9 (156.9; 158.3)	158.7 (158.4; 159.1)	158.0 <i>P</i> _{U1,2} <0.05	157.7 (157.4; 158.0)
5	a-C:H:SiO _x -coated 3-μm thick film	158.6 (158.5; 159.4)	156.5 (154.8; 156.8)	157.1 (156.9; 157.9) <i>P</i> _{U1} <0.05	157.9 (157.3; 158.4)	158.9 (158.5; 158.9)

Table S2. Cl⁻ concentrations (mmol) in 0.9% NaCl solution during five-week in vitro contact with test substrates, *Me(Q1; Q3)*, *n*₁=15.

Group number	Substrates	Cl ⁻ concentration in solution, mmol				
		After 1 week	After 2 weeks	After 3 weeks	After 4 weeks	After 5 weeks
1	0.9 % NaCl reference solution	129.1 (114.2; 133.3)	129.8 (129.4; 130.1)	129.3 (129.0; 130.8)	130.7 (130.6; 131.0)	131.1 (130.2; 131.5)
2	Uncoated Ti-6Al-4V	132.6 (131.0; 132.6)	131.2 (131.0; 132.2)	131.1 (130.3; 131.2)	131.3 (130.5; 131.5)	132.2 (132.1; 132.3)
3	a-C:H:SiO _x -coated 0.5-μm thick film	131.1 (128.2; 131.5)	131.4 (131.0; 131.6)	131.7 (131.1; 132.1) <i>P</i> _{U1} <0.05	131.5 (131.1; 132.0)	129.5 (89.4; 132.3)
4	a-C:H:SiO _x -coated 1.5-μm thick film	132.3 (132.1; 133.4) <i>P</i> _{U1,3} <0.05	130.9* (130.8; 131.7)	132.4 (132.4; 133.2)	132.1** (131.4; 133.2)	132.5 (131.9; 132.5)
5	a-C:H:SiO _x -coated 3-μm thick film	132.8 (132.6; 133.1) <i>P</i> _{U3} <0.05	130.9 (130.7; 130.9)	131.6** (131.0; 132.1) <i>P</i> _{U1} <0.05	131.5** (131.3; 132.0)	132.3** (132.1; 132.5)

Note: here and in Table S1 *n*₁ is the number of measurements in each group. Significant differences were determined: *P*_{U1}-*P*_{U4} < 0.05 vs. the corresponding group number with the Mann-Whitney U test; *P*_T < 0.05 vs. 1st week (*), 2nd week (**), and 3d week (***) with the Wilcoxon signed-rank test.