Electronic Supplementary Material (ESI) for Biomaterials Science

Supplementals

Hydrogel-Based Imaging Sensor Sheets for In-Vitro Assay of Contraction-Dependent Metabolic Regulation in Skeletal Muscle Cells

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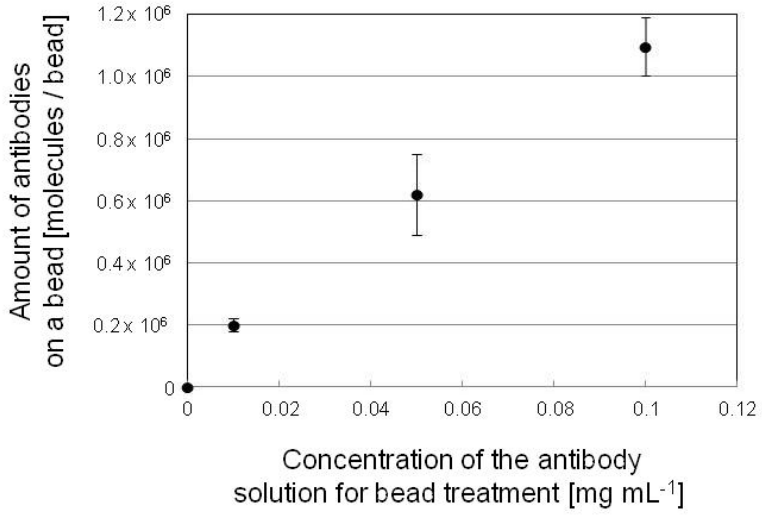

Support Figure S1 Amount of the Alexa Fluor 488-conjugated antibodies on a bead depending on concentration of the antibody solution for bead treatment. Each data point is the mean of three measurements ± SD. The amount of antibody was calculated from the fluorescent intensity of the bead using a calibration curve prepared as follows: A concentration gradient of individual Alexa Fluor 488-conjugated antibody was prepared by diluting stock antibody solution in distilled water, and then spotted on a poly-L-lysine-coated slide (Matsunami Glass Co. Ltd.) with a known volume in triplicates and dried. This calibration slide was observed using a fluorescent microscope and the intensity of each spot was quantified.

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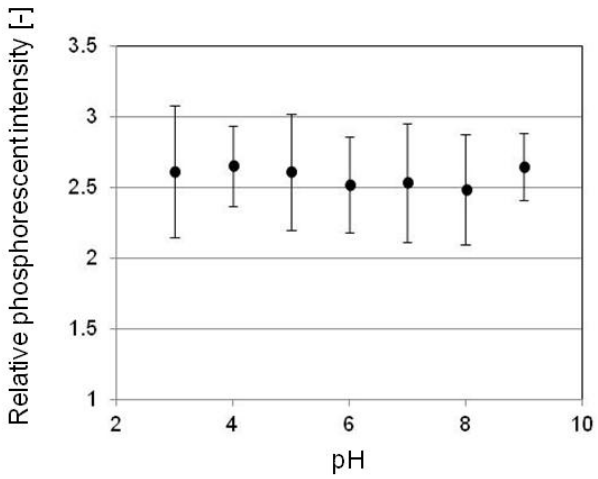
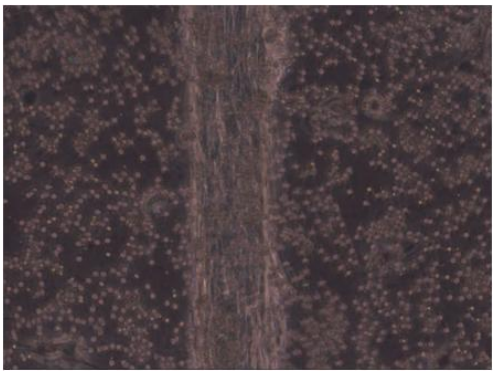


Support Fig. S2 Relative phosphorescent intensity of the oxygen sensor sheet in a Britton Robinson buffer (50 mM composed of 16.67 mM H_3BO_3, 16.67 mM H_3PO_4, 16.67 mM acetic acid in distilled water. pH 3-9). The relative phosphorescent intensity represents the ratio between the intensity detected at oxygen concentration of 0 mM (N_2-saturated condition) and 0.22 mM (air-saturated condition).



Support Movie S1 Synchronous contraction of a myotube band pattern with sensor microbeads electrically stimulated at 1 Hz frequency (0.7 V mm^{-1} amplitude, 2 ms duration).