

*Supplementary Information*

## ***In-Vivo* Measurement of Muscle Tension: Dynamic Properties of the MC Sensor during Isometric Muscle Contraction.**

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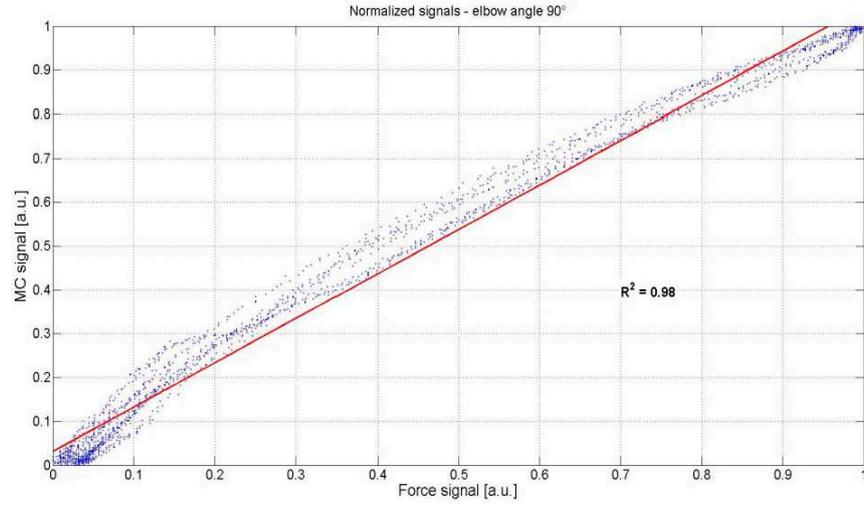
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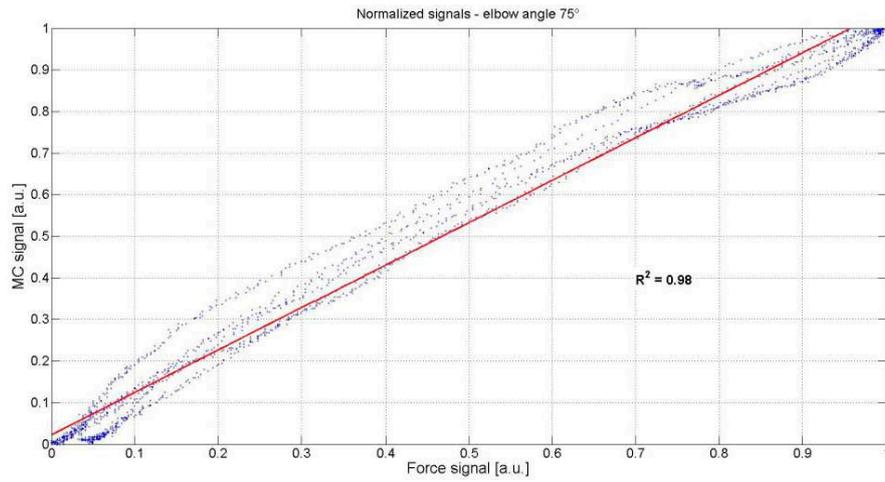
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For a few subjects, we also tested the force to MC sensor relationship using the same protocol for intermediate angles 15°, 30°, 45°, 60°, 75° and 90°. Representative normalized raw data of one subject are presented in Figures S1–S6. The coefficient of determination  $R^2$  was high and similar in all angles between 0.97 and 0.99. Figure S7 presents the slopes and range (related to raw data) of regression lines ( $k_s$ ) at elbow angles 90°, 75°, 60°, 45°, 30°, 30°, 15°.

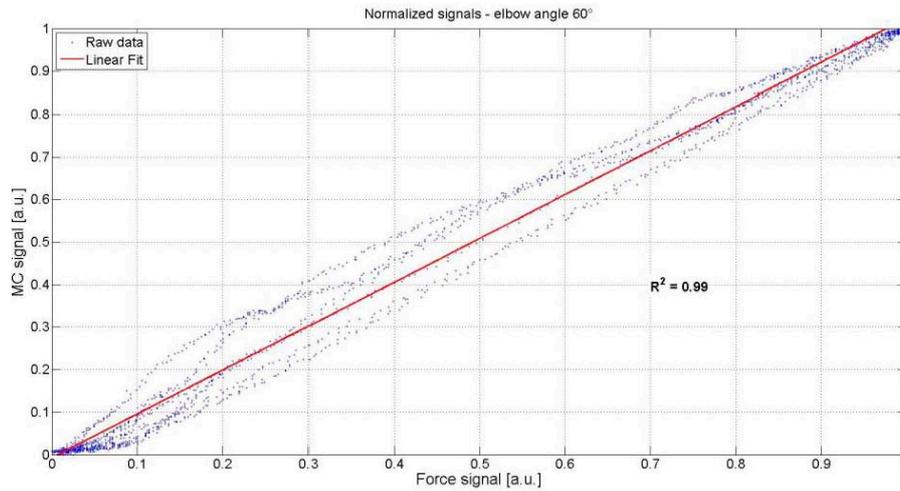
**Figure S1.** Normalized raw F and MC signal from three repetitions at elbow angle 90° from one subject.



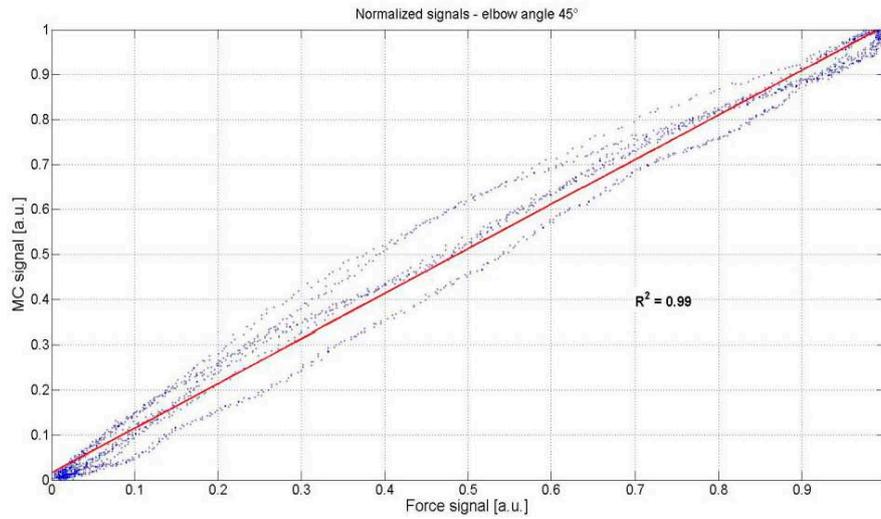
**Figure S2.** Normalized raw F and MC signal from three repetitions at elbow angle 75° from one subject.



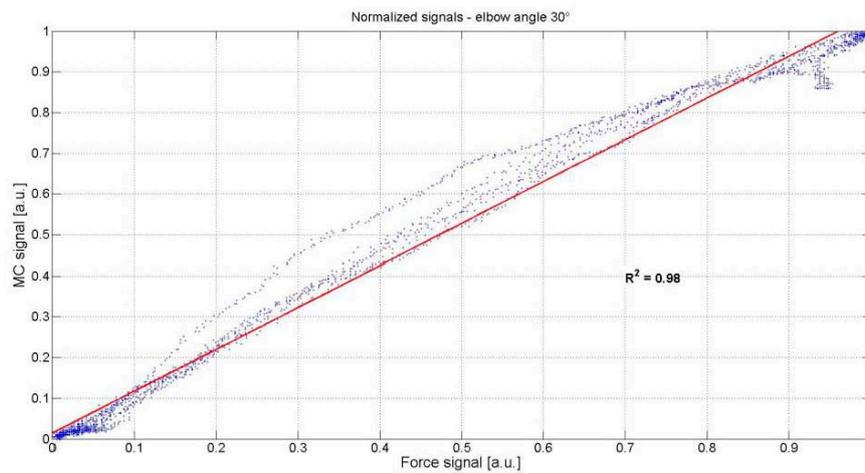
**Figure S3.** Normalized raw F and MC signal from three repetitions at elbow angle 60° from one subject.



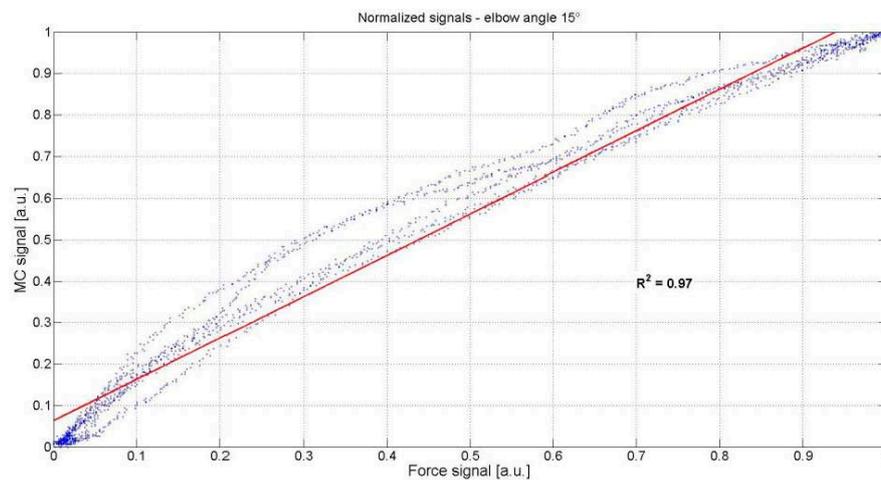
**Figure S4.** Normalized raw F and MC signal from three repetitions at elbow angle 45° from one subject.



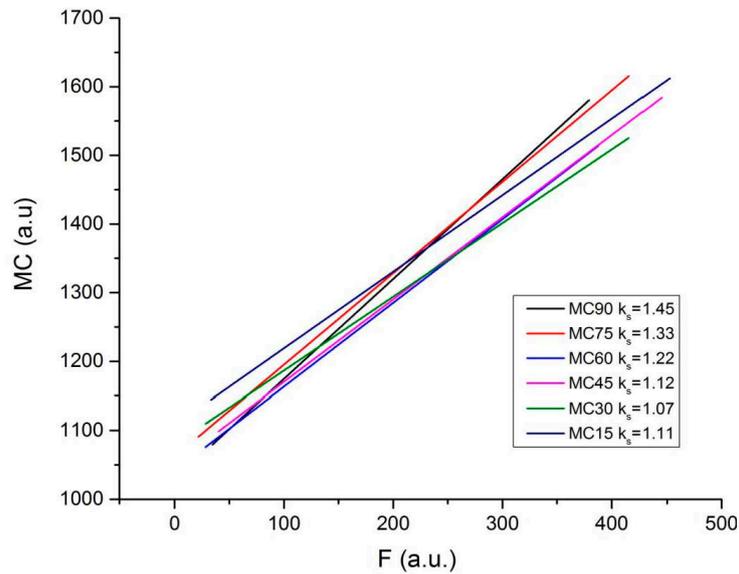
**Figure S5.** Normalized raw F and MC signal from three repetitions at elbow angle 30° from one subject.



**Figure S6.** Normalized raw F and MC signal from three repetitions at elbow angle 15° from one subject.



**Figure S7.** Regression lines were calculated from normalized raw F and MC data. MC15, MC30, MC45, MC60, MC75 and MC90 are regression lines (real range) for elbow angles 15°, 30°, 45°, 60°, 75° and 90°, respectively.  $k_s$  is the slope of the regression line. (a.u. = arbitrary units).



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