

SUPPLEMENTARY INFORMATION

A Bio-inspired Hypoxia Sensor using HIF1a-Oxygen-Dependent Degradation Domain

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Outline of the peptide synthesis and characterization

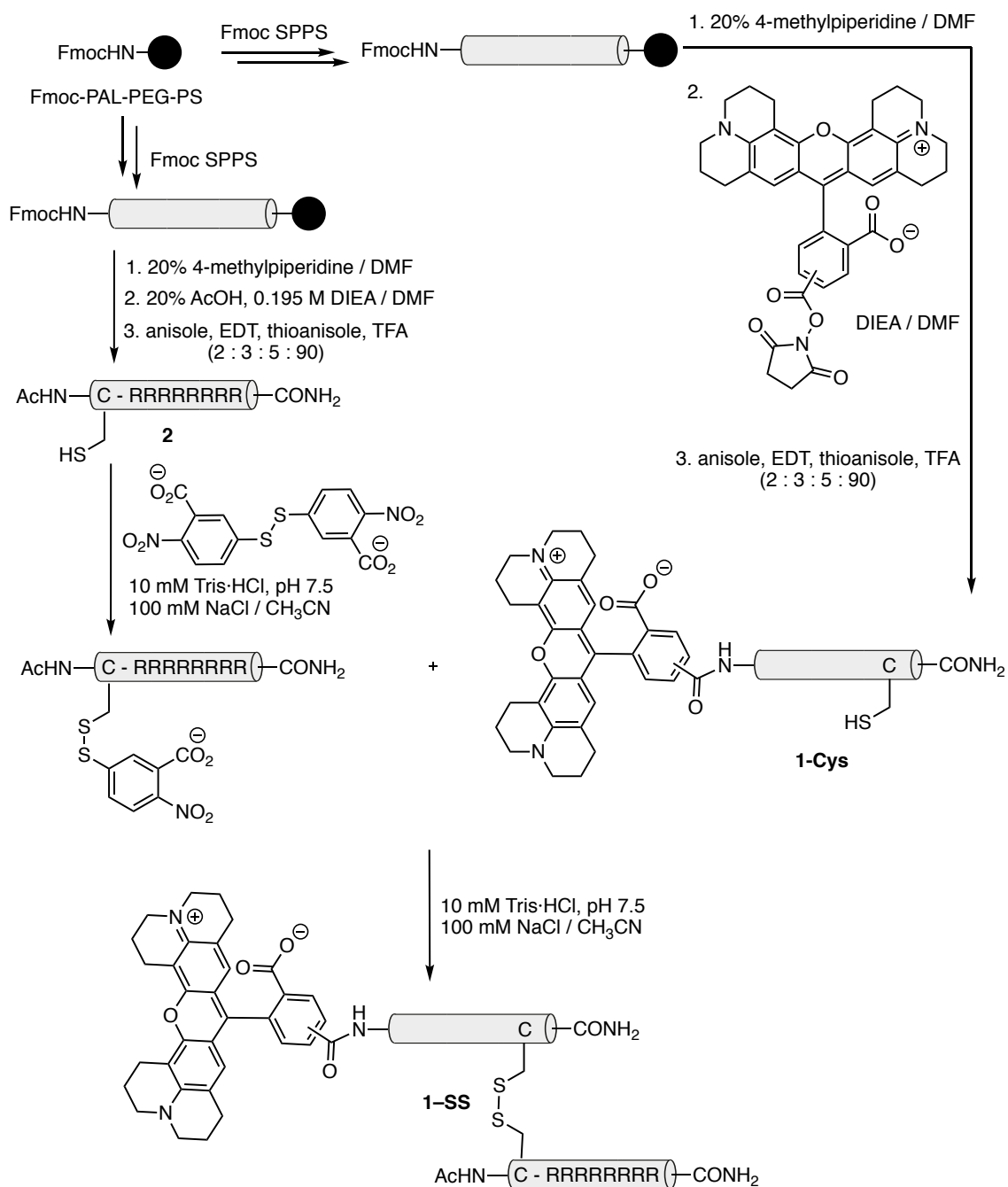


Figure S1. Synthesis of peptide 1-SS.

1: MALDI-TOF MS: $[MH]^+$ calcd for $C_{190}H_{294}N_{56}O_{48}S_2 = 4193,1800$, found = 4193.5331. (8.7 mg, 8% yield for 0.025 mmol scale).

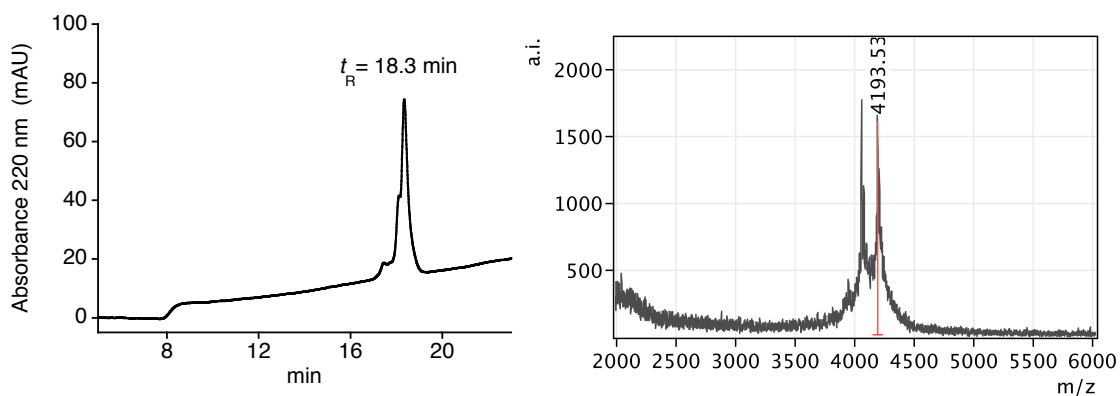


Figure S2. Left: HPLC trace, and **Right:** MALDI-MS spectrum of peptide **1**.

1-SS: MALDI-TOF MS: $[MH]^+$ calcd for $C_{192}H_{296}N_{58}O_{48}S_4 = 4311,1460$, found = 4314.7993.

(1.8 mg, 24% yield for 0.0017 mmol scale).

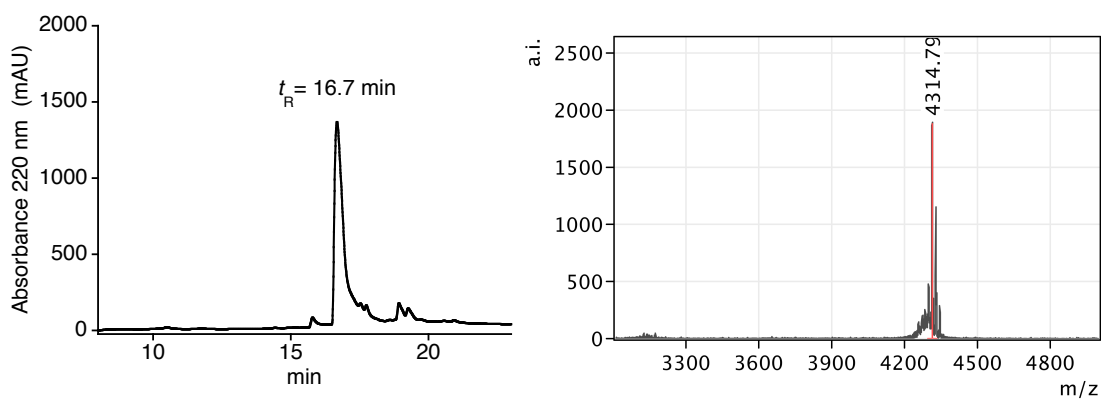


Figure S3. Left: HPLC trace, and **Right:** MALDI-MS spectrum of peptide **1-SS**.

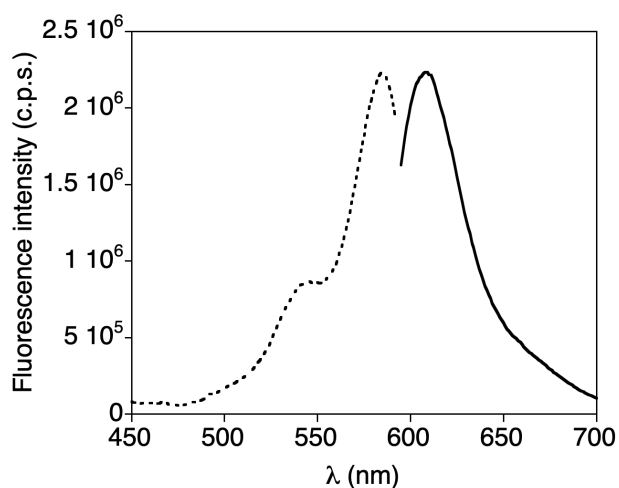


Figure S4: Excitation (dotted line) and emission (solid line) of a $1\mu\text{M}$ solution of peptide **1** in PBS.

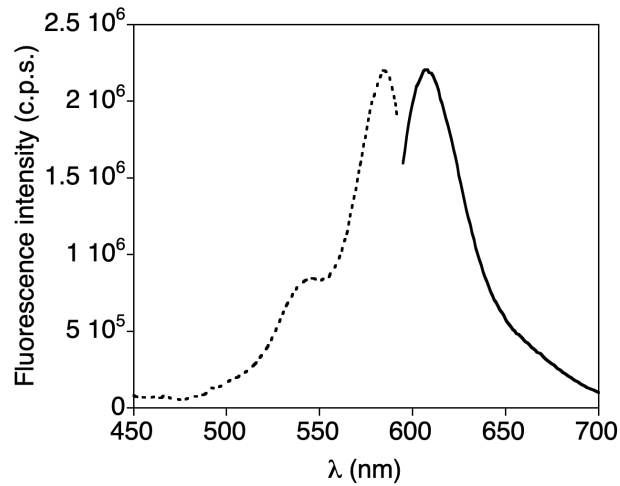


Figure S5: Excitation (dotted line) and emission (solid line) of a 1 μ M solution of peptide 1-SS in PBS.

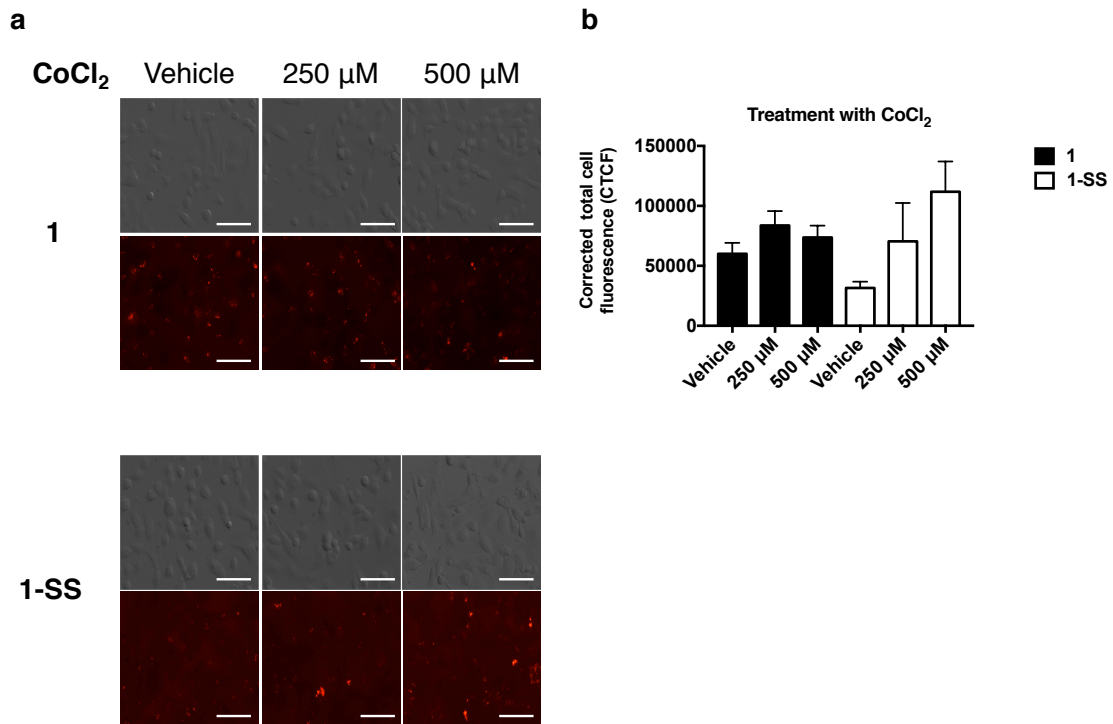


Figure S6: (a) Micrographs of MDA-MB-231 treated with the peptidic sensors 1 and 1-SS (500 ng/mL). Cells were treated with CoCl₂ as well at the indicated concentrations. Images were taken 3 hours upon treatment at 40X magnification. Scale = 50 μ m. (b) Quantification of the corrected total cell fluorescence (CTCF), error bars represent SEM.

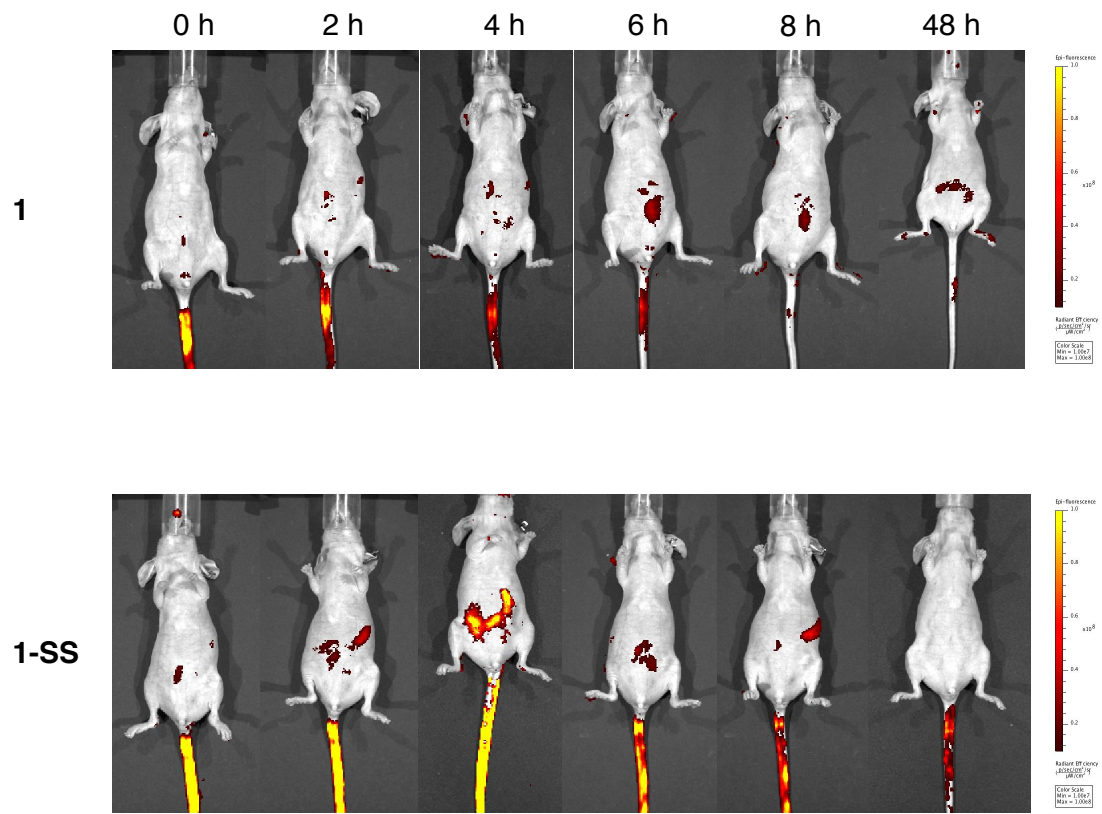


Figure S7: Additional time points comparing fluorescence between peptidic sensors **1** and **1-SS**.