Mitochondrial F_1F_O ATP synthase determines the local proton motive force at cristae rims

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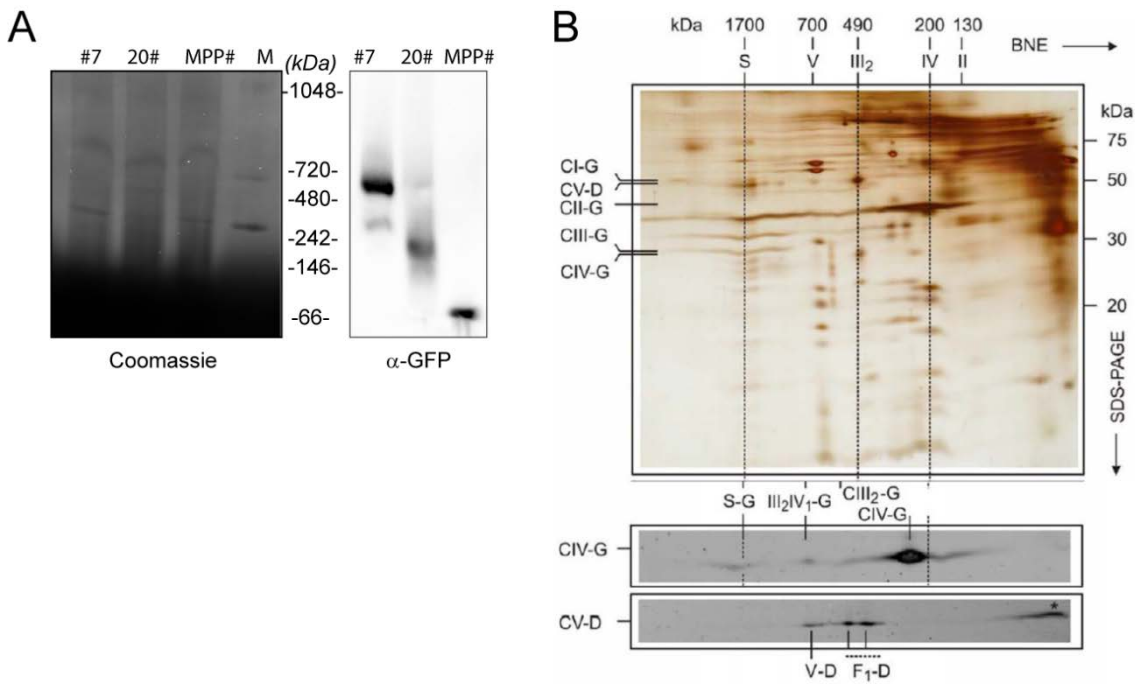
Appendix Table S1: Boltzmann fitting terms of the calibration curve for the pH sensor-proteins

y=A2+(A1-A2)/(1+exp((x-x0)/dx)) Model Boltzmann					Antimycin A experiment
	Subunit position of the pH-sensor				
	matrix	SU γ	SU e	CoxVIIIa	SU e
A1	1.4212 ± 0.0779	1.6212 ± 0.1056	1.4149 ± 0.0529	0.9945 ± 0.1876	1.395 ± 0.035
A2	5.1628 ± 1.9465	10.26836 ± 13.6406	12.7694 ± 9.2931	4.30476 ± 5.0804	5.637 ± 0.2887
X0	7.9397 ± 0.4560	8.5303 ± 1.2105	8.6165 ± 0.6513	8.1848 ± 1.7281	7.66 ± 0.052
dx	0.4656 ± 0.1398	0.4976 ± 0.1820	0.5379 ± 0.0831	0.6561 ± 0.4623	0.366 ± 0.024
Chi-Quadr. Red.	0.3736	0.1196	0.0414	0.1369	0.011
R^2 (COD)	0.994	0.994	0.998	0.987	0.999



Appendix Figure S1. Assembly of fusion proteins into mitochondrial complexes in HeLa cells.

A Import of MPP-sEcGFP (MPP#) into mitochondria. BN-PAGE loaded with solubilized proteins from isolated mitochondria (left panel: Coomassie-gel) and subsequent immunoblotting with anti-GFP. Loading: Lane#1: EGFP-Tom7, #2: Tom20-EGFP, #3: MPP-sEcGFF, #4: molecular weight marker. Image taken from Bhagawati, Arroum et al., (manuscript in revision).

B Assembly of CIV-CoxVIIIa-EGFP and CV-SU-γ-Dendra2 tested by in-gel fluorescence after 2-D BN/SDS-PAGE. GFP and Dendra2 fluorescence are shown in grayscale (lower panels). Upper panel: The same gels were silver-stained. The gel of CIV-G expressed HeLa cells is shown as an example. The positions of the fusion proteins were marked (left axis). Complex IV-Cox8VIIIa-GFP (CIV-G) was detected predominantly in complex IV, and smaller amounts were assembled into supercomplexes (S–G and III2IV1-G). Complex V-γ-Dendra2 (CV-D) was detected in holo complex V (V–D) and, in F1 subcomplexes (F1-D). At the gel front, individual fusion proteins (*) were detected. S, large supercomplexes composed of respiratory chain complexes I, III_2, and IV; III2IV1, small supercomplexes composed of respiratory chain complexes III2, and IV; V, complex V or ATP synthase; IV, complex IV or cytochrome c oxidase; III_2, dimer of complex III or cytochrome c reductase; II, complex II; F1, subcomplex of complex V; G, GFP; D, Dendra2, BNE, Blue native electrophoresis. Part of a figure was reprinted under the terms of the Creative Commons Attribution License, (Muster et al., 2010) https://doi.org/10.1371/journal.pone.0011910.g002.

3 REFERENCES

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