

Supplemental Data

Figure Legend

The occurrence of empty patches of lipid with respect to detergent concentration

The images are all of the micron scale and illustrate :-

- A. WT membrane patches prepared without addition of detergent, scale bar 140 nm.
- B. DPF2G membrane patches prepared without detergent, scale bar 140 nm.
- C. DPF2G membrane patches prepared with 0.005% β -DDM, scale bar 150 nm.
- D. DPF2G membrane patches prepared with 0.01% β -DDM, scale bar 140 nm.

Full grey scale is 50 nm in all images.

In each image a section across a patch of lipid is depicted in the insets. The section of panel D is across a membrane piece that is primarily LH2, as demonstrated by the larger height profile, and then across empty lipid. Another very large patch of isolated empty lipid is also present in this image.

Patches of empty lipid were observed in many of the AFM images regardless of whether the detergent β -DDM had been used in the preparations or not. Indeed even for those samples where β -DDM was used in preparation, the dilution prior to adsorption to the mica, typically 1:10 with non-detergent buffer, reduced the effective concentration to either 0.0005% or 0.001%. Furthermore the same sample initially treated with 0.01% β -DDM (0.001% final concentration for AFM) displayed a mixture of lipid-only regions and lipid associated with LH2 patches on one day, see panel D, but on a subsequent day no large isolated lipid-only regions were observed, see Figs 2-4. Thus the appearance of lipid patches may be linked more with day-to-day variations in the mica surface, which was freshly peeled prior to each new sample adsorption, than the presence of detergent.

