

Supplementary movie 1

Oli-neu cells expressing PLP^{wt}-EGFP, 8 hours post transfection. Small PLP⁺ vesicles (<150nm) are mostly golgi-derived and traffic to the cell surface.

Supplementary movie 2

Oli-neu cells expressing PLP^{wt}-EGFP, 24 hours post transfection. PLP⁺ vesicles are continuously taken up by endocytosis and accumulate in endosomal/lysosomal compartment (>200nm). One such endocytic event is visible at 3 O' Clock position. There are also some events of endosome budding and fusion e.g. 6 O' Clock.

Supplementary movie 3

Oli-neu cells expressing mutant PLP^{msd}-EGFP, 24 hours after transfection. In contrast to PLP^{wt}, PLP^{msd} is completely retained in the ER and is not detected in vesicles or endosomes. EGFP fluorescence displays a reticular pattern of distribution.

Supplementary movie 4

COS-7 cells expressing mutant PLP^{msd}-EGFP, 24 hours after transfection. As in oli-neu cells, PLP^{msd} is retained in the ER of COS-7 cells.

Supplementary movie 5

Oli-neu cells stably expressing PLP^{wt}-EGFP, induced for 24 hours with cAMP, and imaged live. For details see Figure 32.

Supplementary movie 6

Primary oligodendrocytes expressing PLP^{wt}-EGFP and imaged live. Note that rapidly moving endosomes/Lysosomes exhibit a tubular morphology. For details see Figure 33.