



Fig. S1. TransGolgi networks can be identified both with: (A) cryo-electron microscopy of vitreous sections (CEMOVIS), (B) tomography of vitreous sections (TOVIS), and (C) freeze-substitution serial section electron tomography (FS-SET). (A) CEMOVIS electron density map of a stratum granulosum cell. (B) TOVIS zero-tilt post-image electron density map of the interface between stratum granulosum (SG) and stratum corneum (SC). (C) 0.8 nm thick optical slice of a 400 nm thick FS-SETIMOD 3D-reconstruction of the interface between SG and SC. Note that the TransGolgi networks (black asterisk) are spatially associated (black boxes) both with lamellar body-like structures (A, white asterisk) and with the extracellular space (B, C). *White dotted lines* mark the interfaces between SG and SC. Black dots in B represent 10-nm quantum dots (PbS) used as fiducial markers for alignment of the tilt series images during TOVIS 3D-reconstruction. *Black asterisk*: transGolgi networks; *White asterisk*: lamellar body-like structures; *Black arrows* in (B–C): cryo-section cutting direction; Scale bars in A–B: 250 nm; Scale bar in C: 150 nm.