

Few layer graphene does not affect the function and the autophagic activity of primary lymphocytes

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Electronic Supplementary Information

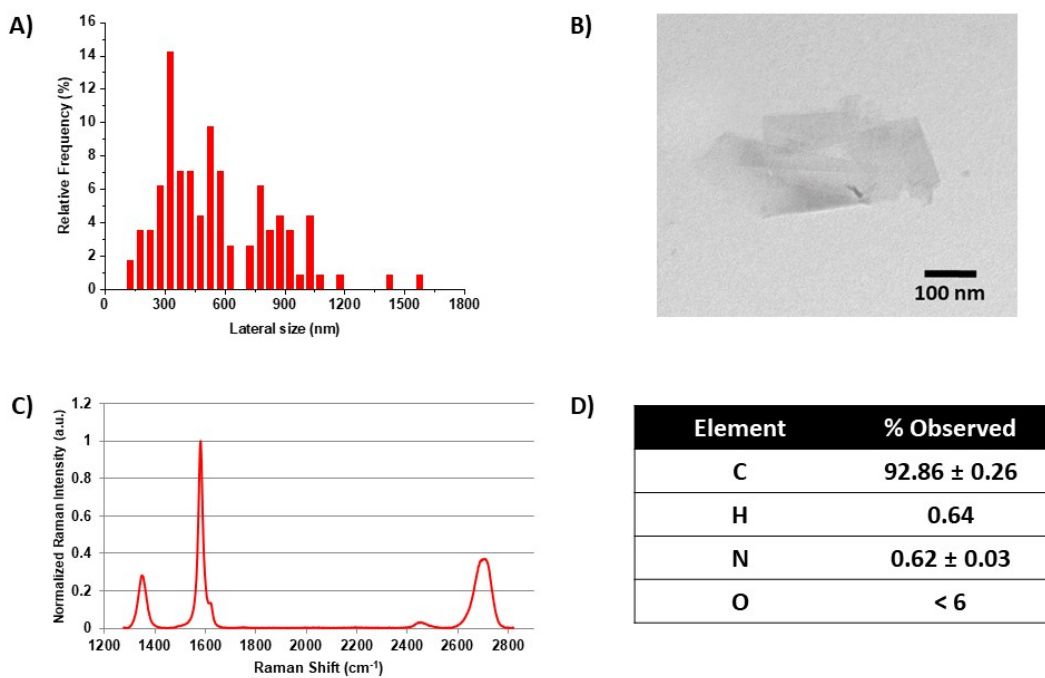


Figure S1. Characterization of FLG sheets. A) Lateral size distribution (n=112) of the FLG flakes employed throughout the study by transmission electron microscopy. A representative TEM image of FLG is shown in (B). (C) Average Raman spectrum (n≥20) of FLG (FWHM (2D)=65.54, I_D/I_G=0.28, I_{2D}/I_G=0.37). (D) Elemental analysis of FLG (the melamine traces resulted in 0.93 ppm).

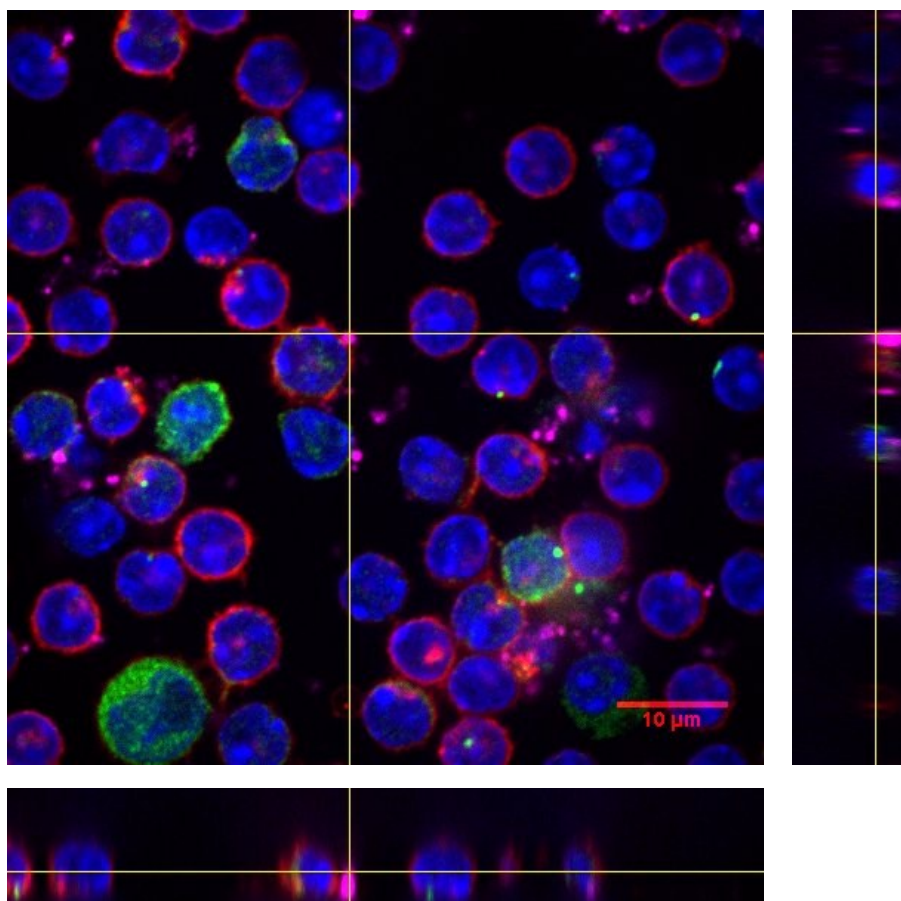


Figure S2. Confocal microscopy study of FLG-QD (pink) interaction with cell membrane and autophagosomes of B lymphocytes. Zeta-stacking and orthogonal view respectively, of confocal images of B cells incubated with $10 \mu\text{g mL}^{-1}$ FLG for 24 h. The nucleus is stained with DAPI (blue), the autophagosomes with an anti-LC3 antibody (green) and the membranes with an anti-MHC-II antibody (red). The images were taken on a spinning-disk confocal microscope with a $100\times$ objective and the indicated scale is $10 \mu\text{m}$.

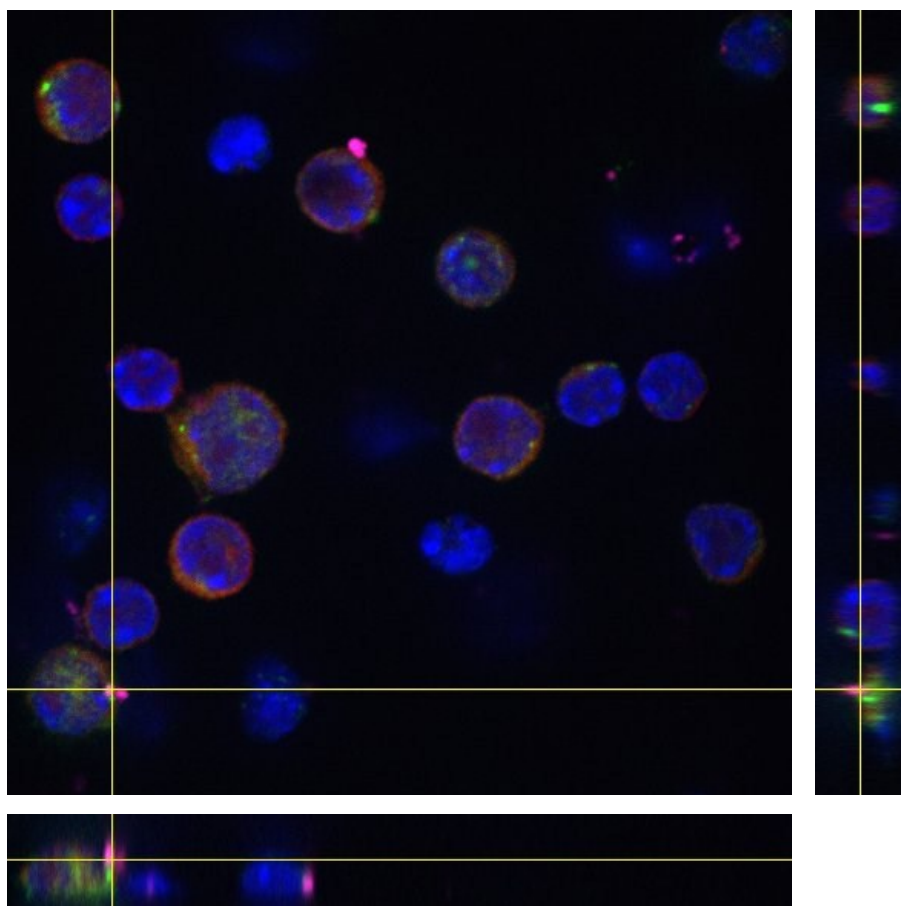


Figure S3. Confocal microscopy study of FLG-QD (pink) interaction with cell membrane and autophagosomes of T lymphocytes. Zeta-stacking and orthogonal view respectively, of confocal images of T cells incubated with $10 \mu\text{g mL}^{-1}$ FLG for 24 h. The nucleus is stained with DAPI (blue), the autophagosomes with an anti-LC3 antibody (green) and the membranes with an anti-TCRb antibody (red). The images were taken on a spinning-disk confocal microscope with a $100\times$ objective and the indicated scale is $10 \mu\text{m}$.

Video S1. Overlay of the z stacking of FLG (black) after 24 h in the presence of fluorescein (green).

Video S2. Overlay of the z stacking of B lymphocytes after 24 h incubation with $10 \mu\text{g mL}^{-1}$ of FLG. In blue, DAPI; in green, LC3; in red, MHC-II; in magenta: FLG-QDs.

Video S3. Overlay of the z stacking of T lymphocytes after 24 h incubation with $10 \mu\text{g mL}^{-1}$ of FLG. In blue, DAPI; in green, LC3; in red, TCRb; in magenta: FLG-QDs.