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Supplemental information

Crabtree effect in kidney proximal tubule cells via late-stage glycolytic intermediates

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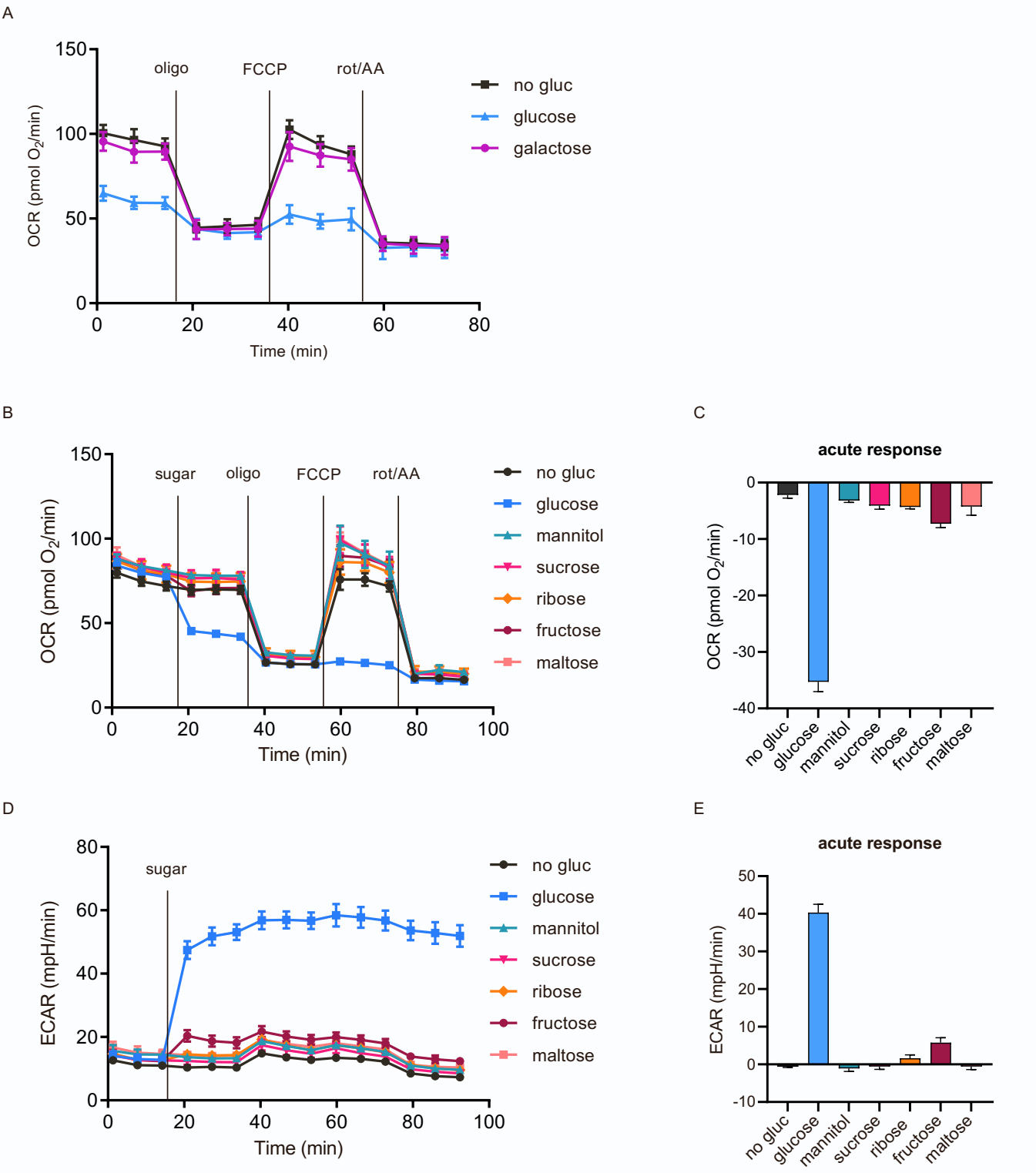

Figure S1. Glucose-induced respiratory inhibition and extracellular acidification happen acutely within minutes after the treatment and are specific to glucose, Related to Figure 2. A: OCR in HK2 cells switched from growth media to assay media (Seahorse XF base medium with 5 mM HEPES) with no glucose, 5.5 mM glucose or 5.5 mM galactose 1 hour prior the assay. Changes in OCR were measured before and after sequential injections of oligomycin, FCCP and rotenone/antimycin A. B-E: 5.5 mM glucose or indicated sugars are injected to HK2 cells following rate 3 through XF cartridge port A followed by injections of oligomycin, FCCP and rotenone + antimycin A. Data are represented as mean ± SD from a representative experiment.

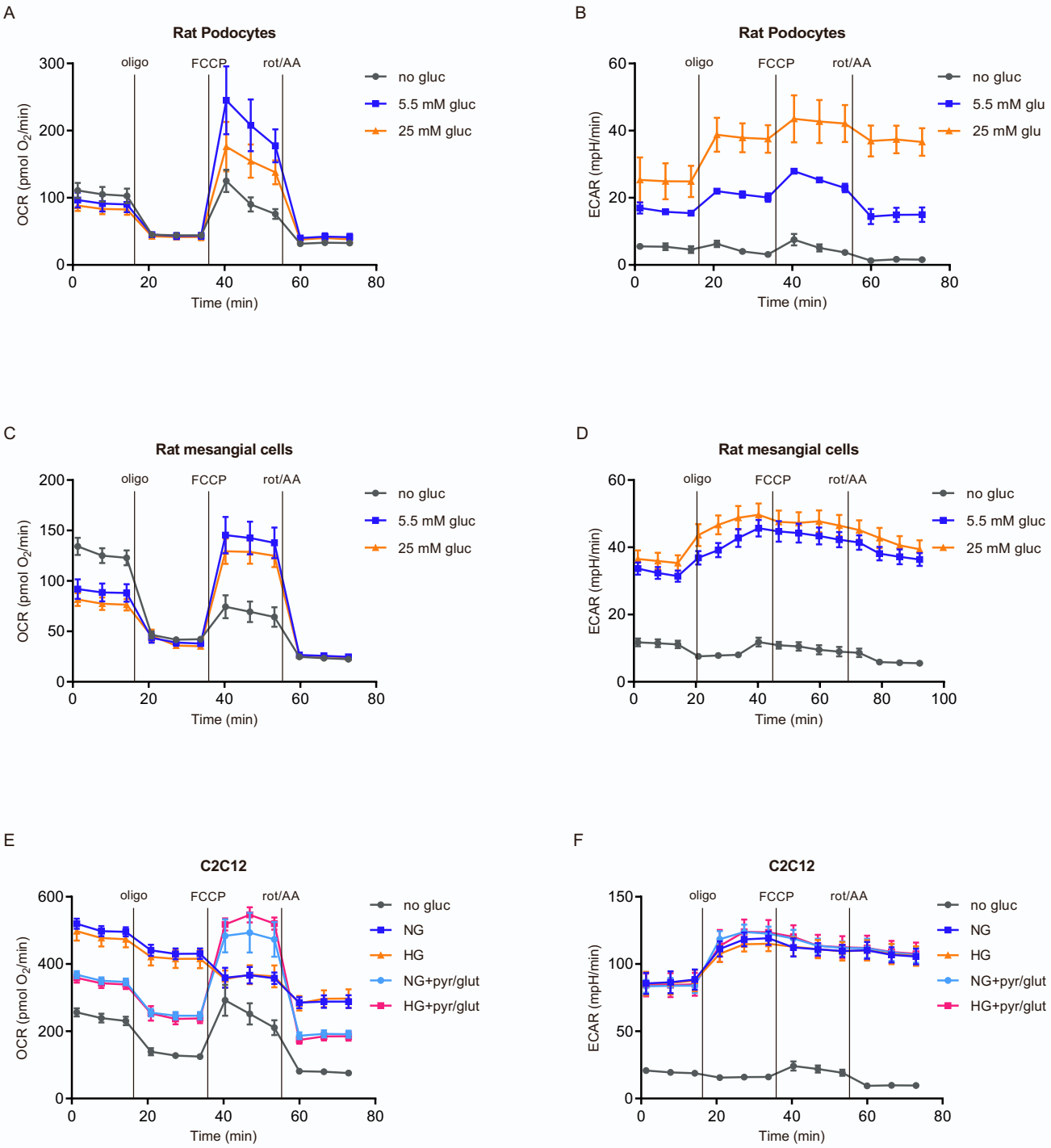

Figure S2. Glucose promotes both maximal OCR and ECAR in podocytes, mesangial cells and C2C12 myoblasts, Related to Figure 2. OCR and ECAR in podocytes (A, B), mesangial cells (C, D) and C2C12 myoblasts (E, F). Cells were switched from growth media to assay media (Seahorse XF base medium with 5 mM HEPES) with indicated concentration of glucose 1 hour prior the assay. Changes in OCR and ECAR were measured before and after sequential injections of oligomycin, FCCP and rotenone/antimycin A. Data are represented as mean ± SD from a representative experiment.

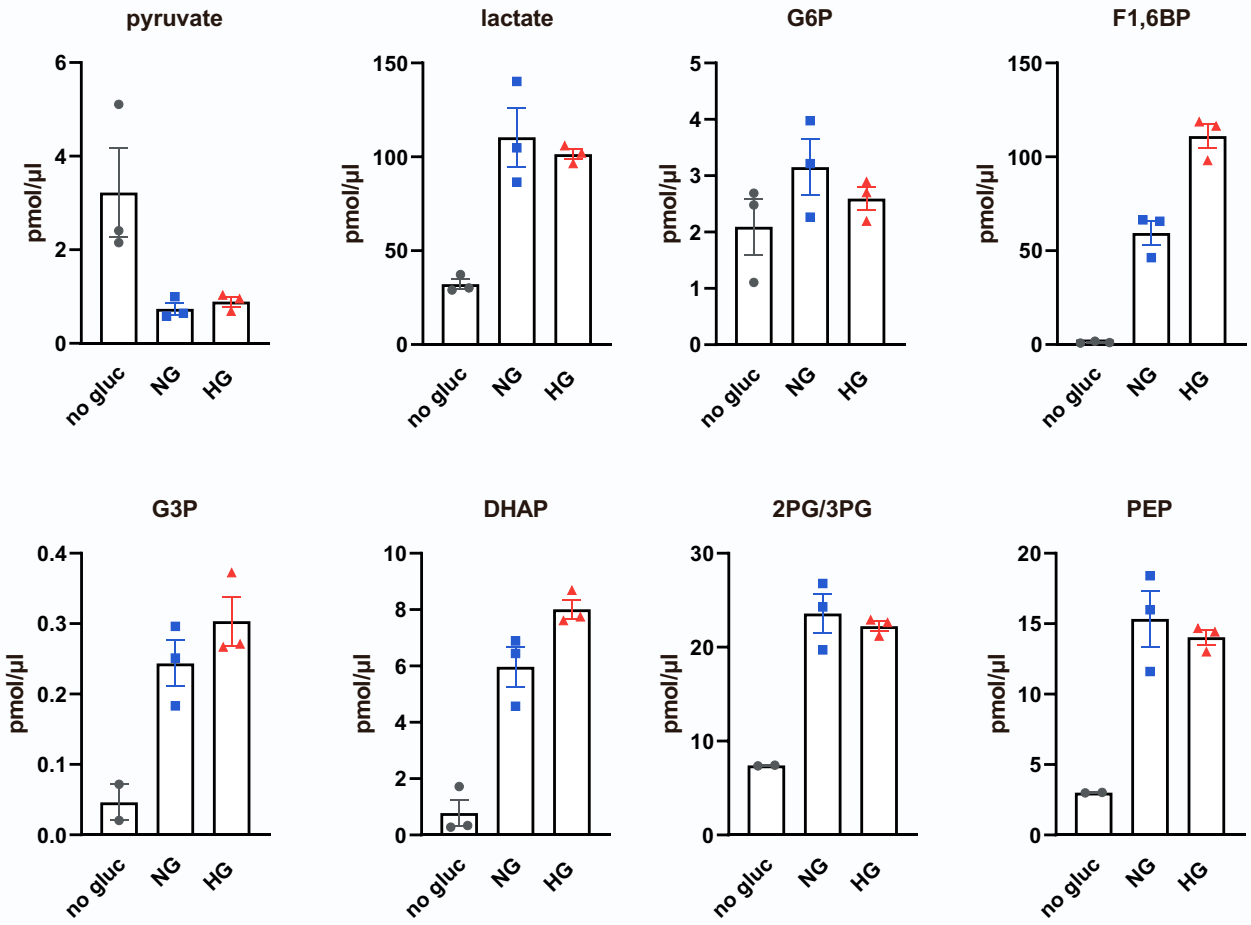

Figure S3. The levels of all glycolytic intermediates, except for pyruvate, are increased in NG and HG compared to no glucose conditions in HK2 cells, Related to Figure 4. HK2 cells were switched from growth media to assay media (Seahorse XF base medium with 5 mM HEPES) containing no glucose, NG or HG 1h before harvest and mass spec analysis of glycolytic intermediates was performed in cell extracts. Data are represented as mean ± SEM.