Supplementary Material

to
Sub-nanometer cryo-EM density map
of the human heterodimeric amino acid transporter 4F2hc-LAT2
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Table 1. Data acquisition and processing information.

|                     | Electron Microscope. | Thermo Scientific Titan Krios G4 |
|---------------------|----------------------|----------------------------------|
| Direct electron detector camera | Falcon 4             |                                  |
| Data acquisition software    | EPU 2                |                                  |
| Magnification      | 96,000 x             |                                  |
| Magnification voltage (kV) | 300                  |                                  |
| Electron exposure (e/Å²)    | 40                   |                                  |
| Dose rate (e/Å²/s)       | 8.7                  |                                  |
| Acquisition time per image (s) | 4.6                 |                                  |
| Defocus range (μm)     | -0.9 to -2.2         |                                  |
| Pixel size (Å/pix)    | 0.83                 |                                  |
| Symmetry imposed     | C1                   |                                  |
| Initial electron micrographs (no.) | 5,967                |                                  |
| Final electron micrographs (no.) | 3,120                |                                  |
| Initial particle images (no.) | 957,188              |                                  |
| Final particle images (no.) | 104,971              |                                  |
| Map resolution (Å)    | 7.5                  |                                  |
| FSC threshold        | 0.143                |                                  |
Figure S1. Flow chart for cryo-EM data processing and cryo-EM map analysis. (A) Displayed are details of the individual cryo-EM data processing steps as given in the Materials and Methods section. Calculations performed using Relion and cryoSPARC are highlighted in green and light blue, respectively. The cryo-EM maps obtained are shown and those selected and used for a next calculation step are boxed. (B) The Fourier shell correlation (FSC) plot for the calculated 4F2hc-LAT2 density map indicated a resolution of 7.5 Å at a cut-off 0.143 (gold standard) criterion. (C) Local resolution map calculated using the final cryo-EM map of 4F2hc-LAT2 by cryoSPARC. Whereas on the left-hand side central slices through the map are displayed, on the right side 3D representations of the cryo-EM of map plus the protein density are shown. (D) Angular distribution for particle projections calculated using cryoSPARC. The heat map displays the number of particles for each viewing angle.