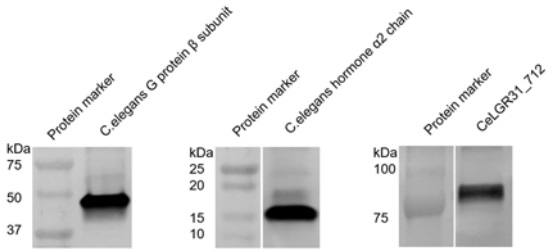
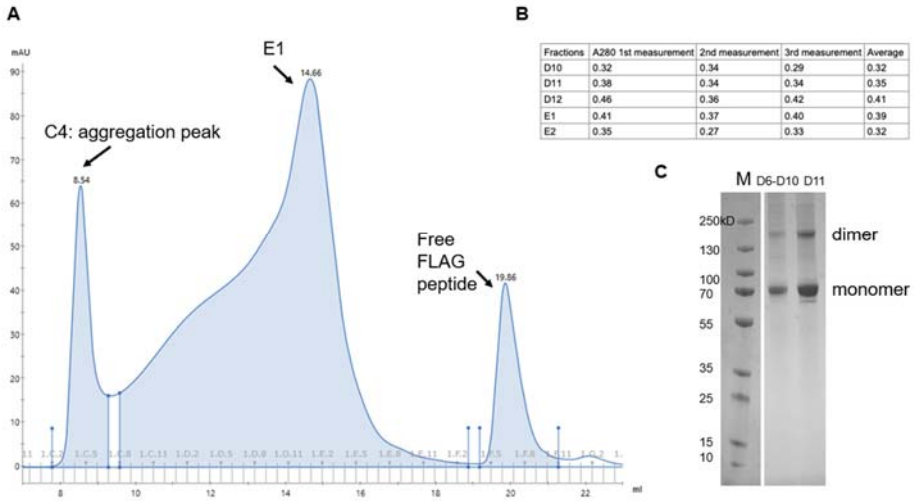


Figure 1. Western Blot Analysis of FLAG-tagged Components of the Signaling Complex.

293T cells (2 ml) were seeded in a 6-well plate and infected the following day with 75 µl of P2 baculovirus. Sodium butyrate was added 8 hours later to a final concentration of 10 mM. Cells were harvested 72 hours post-infection, lysed via sonication, and centrifuged at 13,000 rpm for 10 minutes. The resulting supernatant was subjected to Western blot analysis using antibodies against the FLAG tag. The expected molecular weights of the FLAG-tagged components are as follows: C. elegans G protein β subunit, 38.4 kDa; C. elegans hormone α2 chain, 11.5 kDa; truncated *Ce*LGR31_712 (80 kDa, with the last 200 amino acids truncated due to disorder and native signal peptide replaced with an HA signal peptide for enhanced solubility). All components were observed at their expected molecular weights and were soluble. *C. elegans* G protein α subunit, γ subunit, and hormone β subunit do not have a tag, thus cannot be tested with WB.



Fractions	A280 1st measurement	2nd measurement	3rd measurement	Average
D10	0.32	0.34	0.29	0.32
D11	0.38	0.34	0.34	0.35
D12	0.46	0.36	0.42	0.41
E1	0.41	0.37	0.40	0.39
E2	0.35	0.27	0.33	0.32

Figure 2. Size Exclusion Chromatography of *Ce*LGR31_712.

(A) Size exclusion chromatogram of *Ce*LGR31_712. (B) A280 absorbance measurements of eluted fractions. (C) SDS-PAGE analysis of the peak fraction and adjacent fractions.

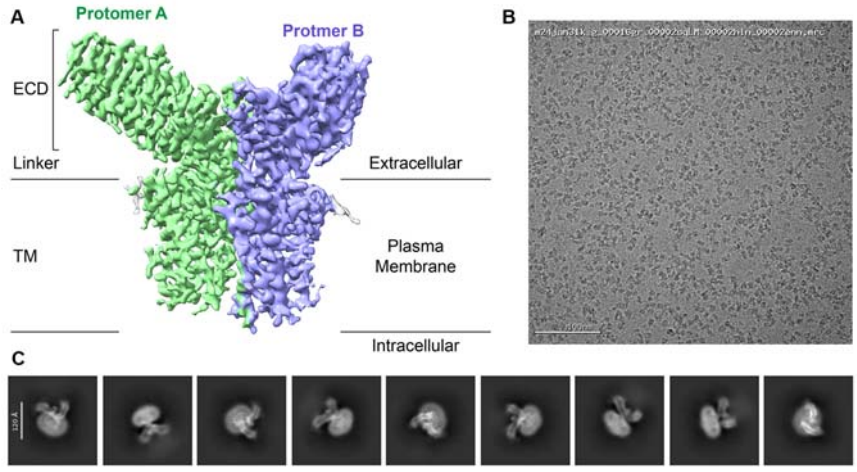


Figure 3. Density Map of *Ce*LGR Receptor Dimer and Representative Micrograph and 2D Classes.

(A) Density map of *Ce*LGR receptor dimer. (B) Representative micrograph for receptor sample, acquired using a Glacios microscope. (C) Representative 2D classes of the receptor. The dataset was obtained with a Titan Krios microscope.