Figure S1

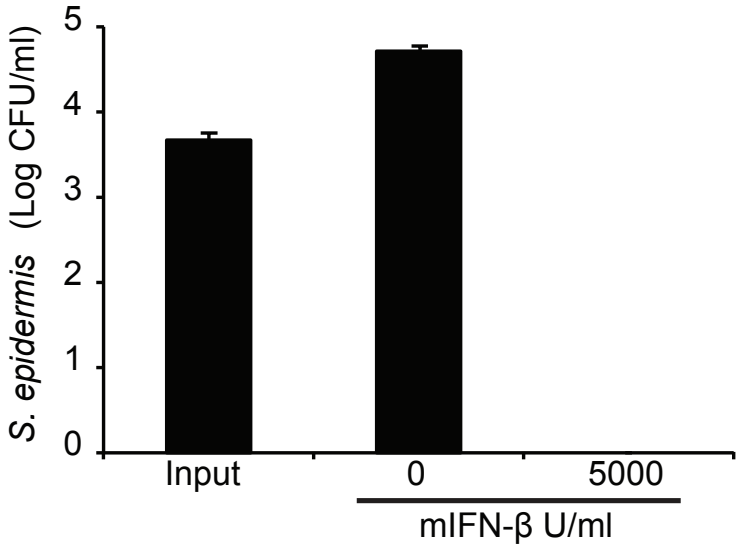


**FIGURE S1.** *Staphylococcus epidermis* was grown in Luria broth (LB) at 37°C with agitation overnight to stationary phase, then sub-cultured and incubated until mid-log was reached. Cultures were washed in sterile PBS and diluted for use. Cultures were washed in sterile PBS and diluted for use. For killing assays using mouse recombinant whole IFN-β (PBL Interferon), bacteria were grown as described and re-suspended in RPMI 1640 (Corning). 100 μl reactions (bacteria + IFN-β or vehicle) were added to sterile 1.5 mL tubes. Tubes were incubated at 37°C with shaking for 1, 3, or 24 hours. After specified incubation periods, ten-fold serial dilutions were plated on LB plates to quantify surviving CFU.

Figure S2

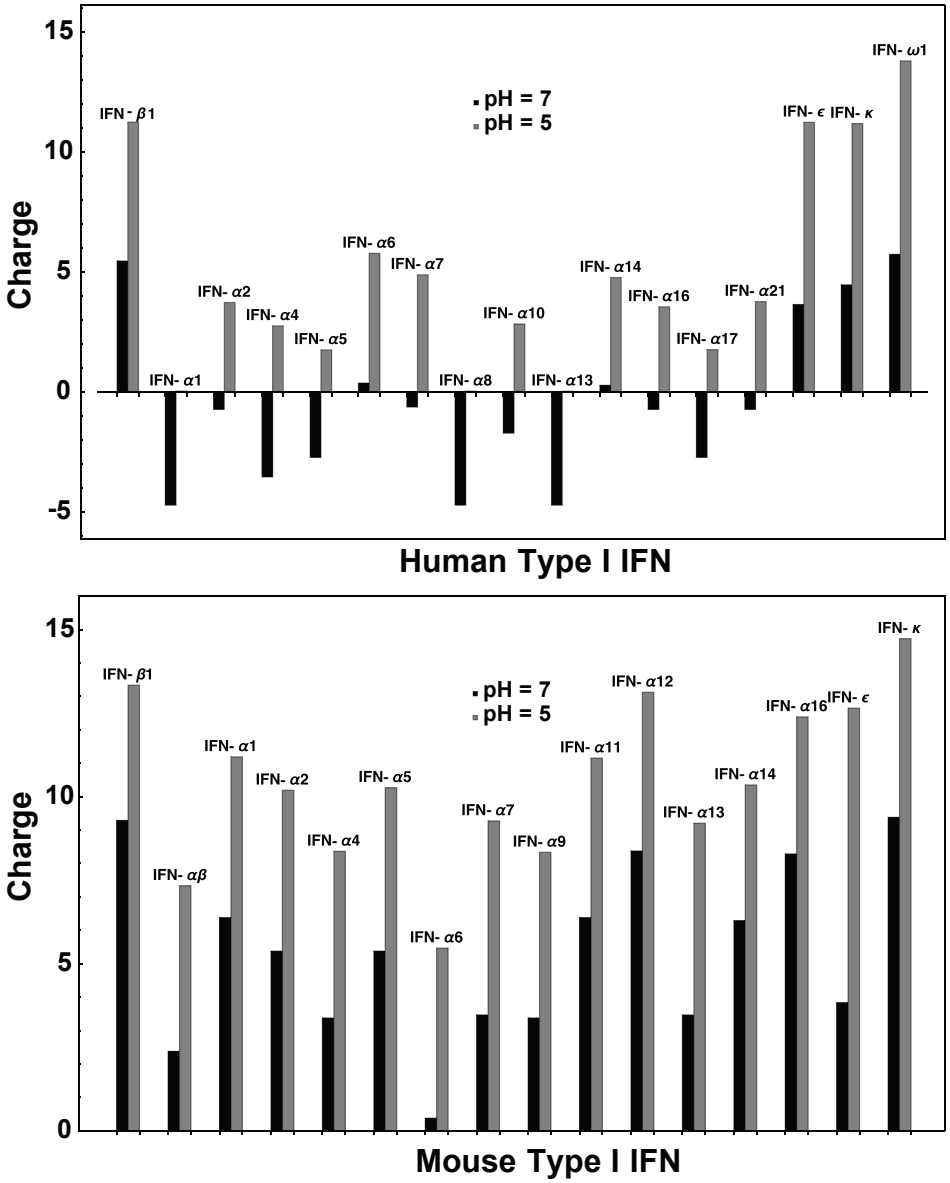


**FIGURE S2.** We obtained FASTA sequences of Type I IFNs from Uniprot and calculated their charges in Mathematica at pH 7.4 and pH 5.0 according to the following formula:

$$charge(pH) = \frac{n_K}{1+10^{(pH-pKa_K)}} + \frac{n_H}{1+10^{(pH-pKa_H)}} + \frac{n_R}{1+10^{(pH-pKa_R)}} - \frac{n_D}{1+10^{-(pH-pKa_D)}} - \frac{n_E}{1+10^{-(pH-pKa_E)}}$$

Where $n_x$ is the total number of amino acid X in the sequence, and $pKa_x$ is the pKa of amino acid X.

| Amino Acid | pKa |
|---|---|
| Lysine (K) | 10.53 |
| Arginine (R) | 12.48 |
| Histidine (H) | 6.00 |
| Aspartic acid (D) | 3.86 |
| Glutamic acid (E) | 4.07 |

Figure S3

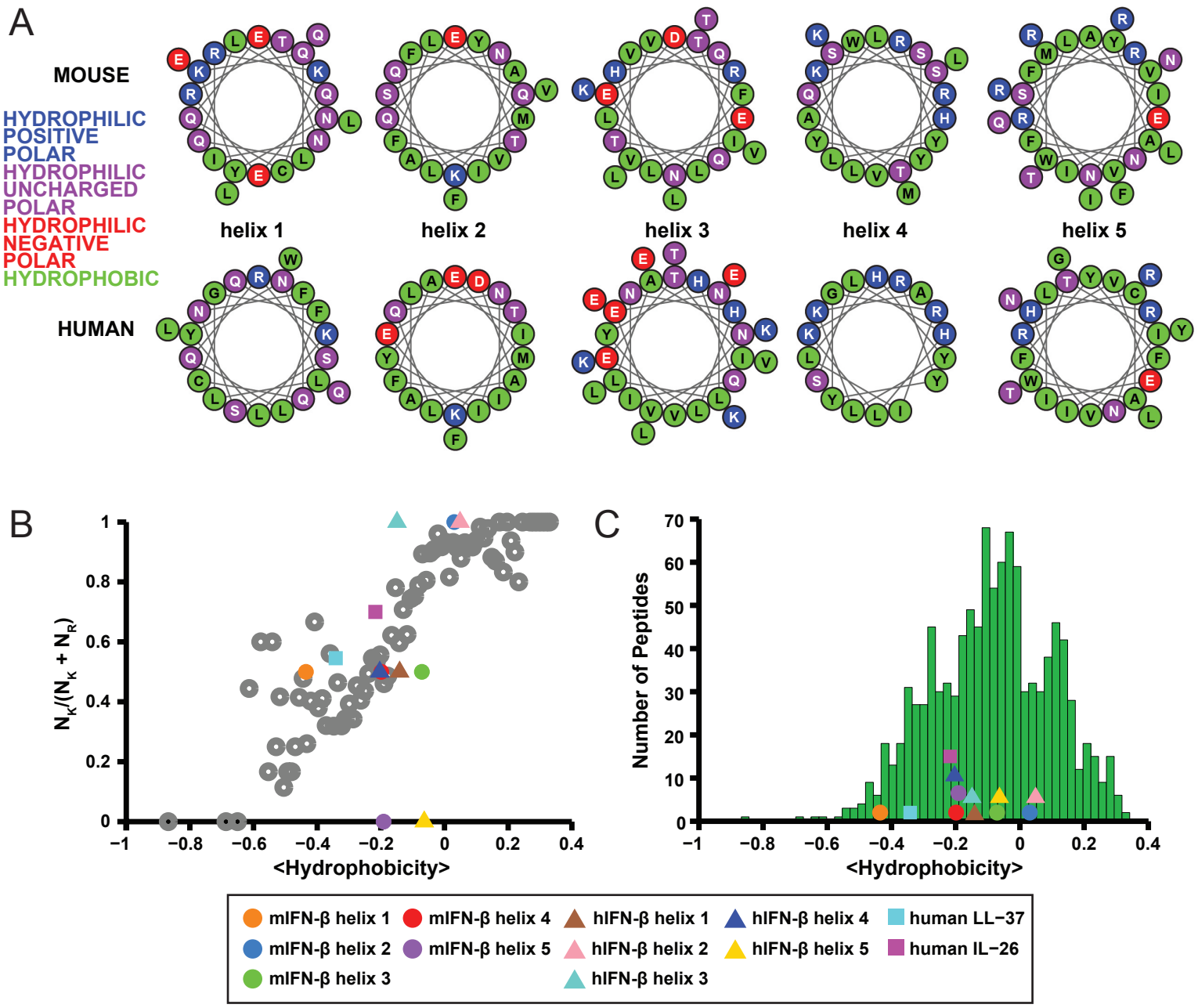


**FIGURE S3. A,** Helical wheel projections were made for all five mouse and human helices to assess the proximity of positively charged amino acid residues in mouse and human IFN-β helix 4 peptides. **B,** Amino acid composition of IFN-β helices compared with antimicrobial peptides. Sequences of helices 1-5 for mouse and human IFN-β, human LL-37, and human IL-26 are plotted and compared with 1080 cationic AMPs in the antimicrobial peptide database (grey open circles) using the relation between NK/(NK + NR) (the ratio of the number of lysines to the total number of lysines and arginines) and average peptide hydrophobicity (using the Eisenberg Consensus scale. **C,** The hydrophobicities of IFN-β helices are comparable to those of antimicrobial peptides. Hydrophobicities of helices 1-5 for mouse and human IFN-β, human LL-37, and human IL-26 are shown in comparison with the distribution of average hydrophobicities (using the Eisenberg Consensus scale) among AMPs in the antimicrobial peptide database (histogram). All helices are within the hydrophobic range of AMPs.

Figure S4

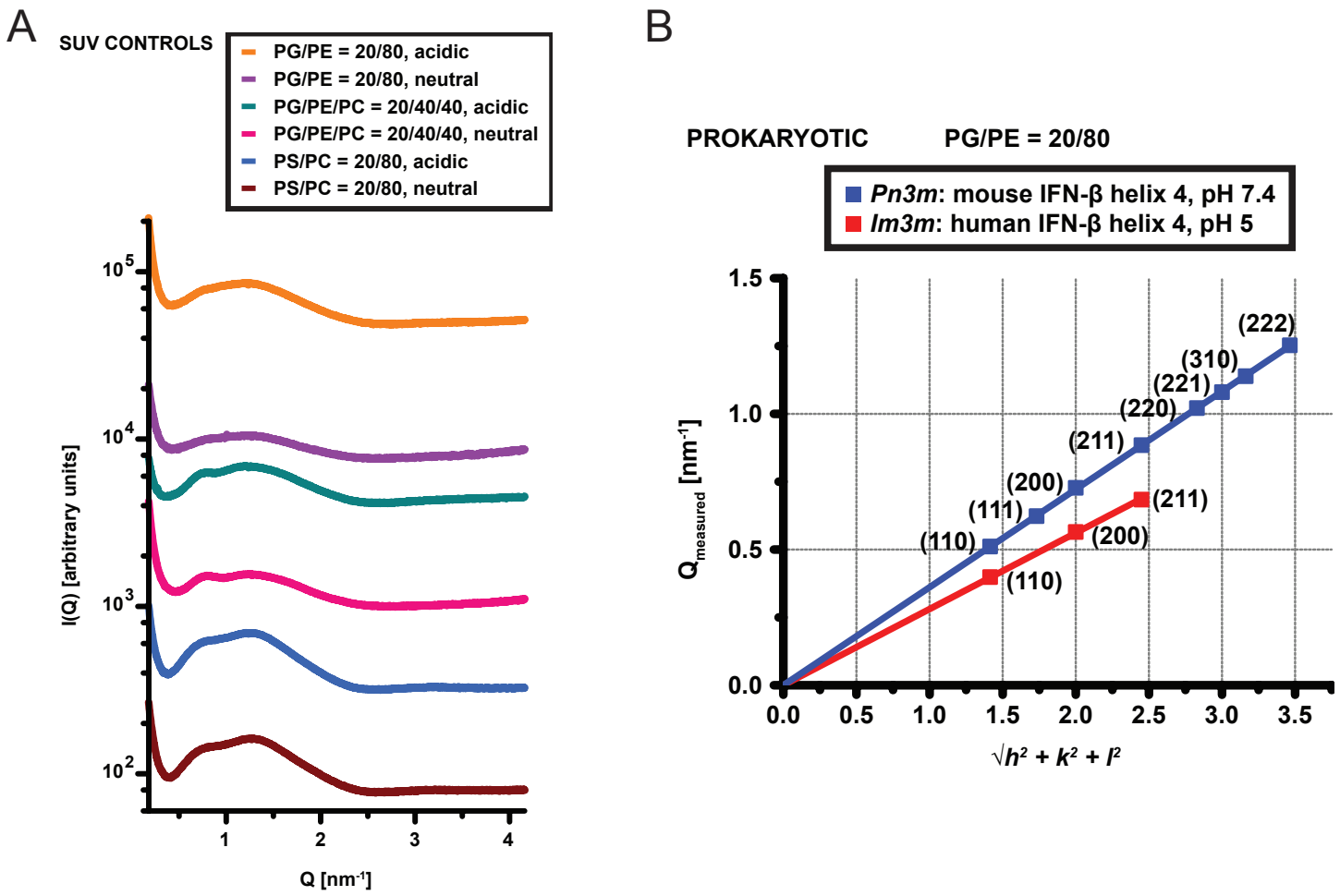


**FIGURE S4. A,** SUV controls. **B,** Indexation of cubic phases. Measured Q-positions of the cubic peaks in the spectra from versus assigned reflections in terms of Miller indices *h*, *k*, and *l*. For a powder-averaged cubic phase, $Q = \frac{2\pi}{a}\sqrt{h^2 + k^2 + l^2}$, where *a* is the lattice parameter.