

Figure 6 – figure supplement 1

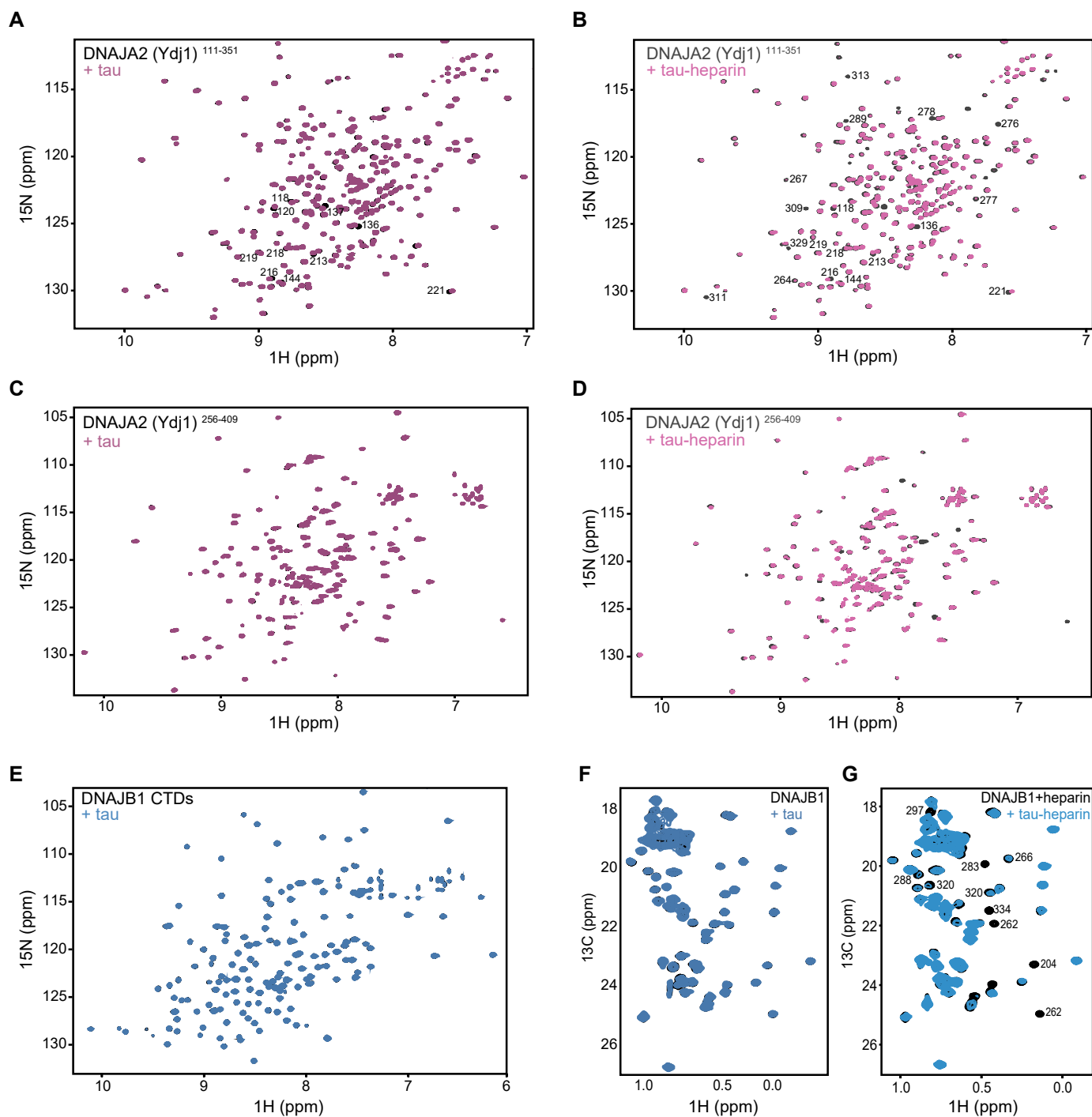


Figure 6 – figure supplement 1

Mapping DNAJA2 and DNAJB1 chaperone binding to tau species. **(A)** ^1H - ^{15}N TROSY-HSQC of class A J-domain protein Ydj1 (DNAJA2 homolog) residues 111-351 alone (black), and in complex with 2 molar equivalents of monomeric tau (purple). Residues displaying chemical shift perturbation upon tau binding are indicated. **(B)** ^1H - ^{15}N TROSY-HSQC of Ydj1¹¹¹⁻³⁵¹ alone (black), and in complex with 2 molar equivalents of the aggregation-prone tau species (purple). These tau species were generated by addition of 2-fold molar excess of heparin to tau. The same amount of heparin was also added to Ydj1¹¹¹⁻³⁵¹ alone (black). Residues displaying broadening upon interaction with tau are indicated. **(C)** ^1H - ^{15}N TROSY-HSQC of DNAJA2²⁵⁶⁻⁴⁰⁹ alone (black), and in complex with 2 molar equivalents of monomeric tau (purple). No changes in the spectrum are observed, indicating that DNAJA2 CTDII and dimerization domains do not interact with the monomeric tau species. **(D)** ^1H - ^{15}N TROSY-HSQC of DNAJA2²⁵⁶⁻⁴⁰⁹ alone (black), and in complex with 2 molar equivalents of the aggregation-prone tau species (purple). These tau species were generated by addition of 2-fold molar excess of heparin to tau. The same amount of heparin was also added to DNAJA2²⁵⁶⁻⁴⁰⁹ alone (black). The presence of chemical shift perturbations confirms that the aggregation-prone tau-heparin species also bind to the CTDII in the presence of the dimerization domain. **(E)** ^1H - ^{15}N TROSY-HSQC of DNAJB1 CTDs (residues 154-341) alone (black), and upon addition of 2-fold excess of monomeric tau protein (blue). No changes in chemical shift positions or intensities were detected, indicating lack of binding. **(F)** ^1H - ^{13}C HMQC spectra of full length DNAJB1 alone (black), and upon addition of 2-fold excess of monomeric tau protein (blue). No interaction is visible between the two proteins. **(G)** Same experiment as in F performed with aggregation prone (heparin-bound) tau species. Residues displaying significant reduction in intensity upon binding to heparin-tau are indicated.