

Project title: Structure of a human RNA methyltransferase complex
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Preliminary data:

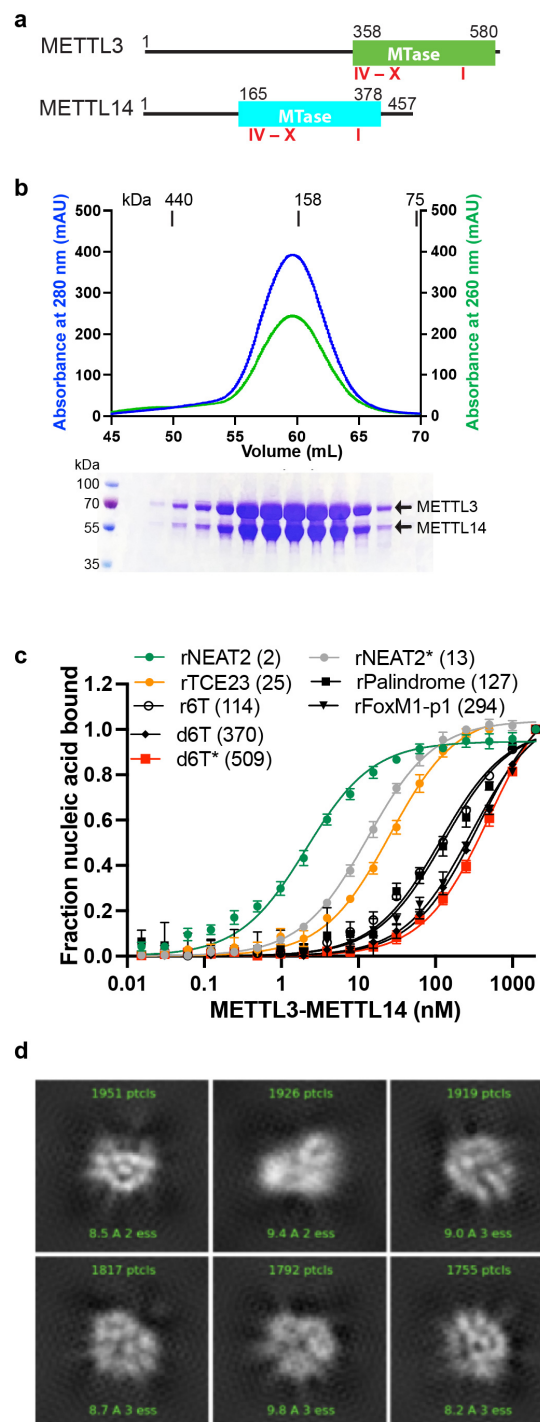


Figure 1. **a.** Domain architecture of human METTL3 and METTL14 methyltransferases. **b.** Chromatogram of final size exclusion chromatography step of purification (upper panel) showing human METTL3-METTL14 complexes (expressed in insect cells) co-eluted as single homogenous species. Blue, absorbance at 280 nm; green, absorbance at 260 nm (A260). Coomassie stained gels (lower panels) confirm high purity of METTL3-METTL14 proteins in the SEC peak fractions. **c.** FP-based binding assay for DNA and RNA oligos showing highest affinity for rNEAT2 RNA (green), and lowest affinity for d6T* oligo (red). Equilibrium dissociation constants (Kd) for each oligo are shown on the right side of the isotherms. The data were fit into one site specific binding model ($Y=B_{max} \cdot X / (K_d + X)$). **d.** Various 2D class averages of METTL3-METTL14 complex (apo) calculated from KRIOS data measured at NCCAT, New York.