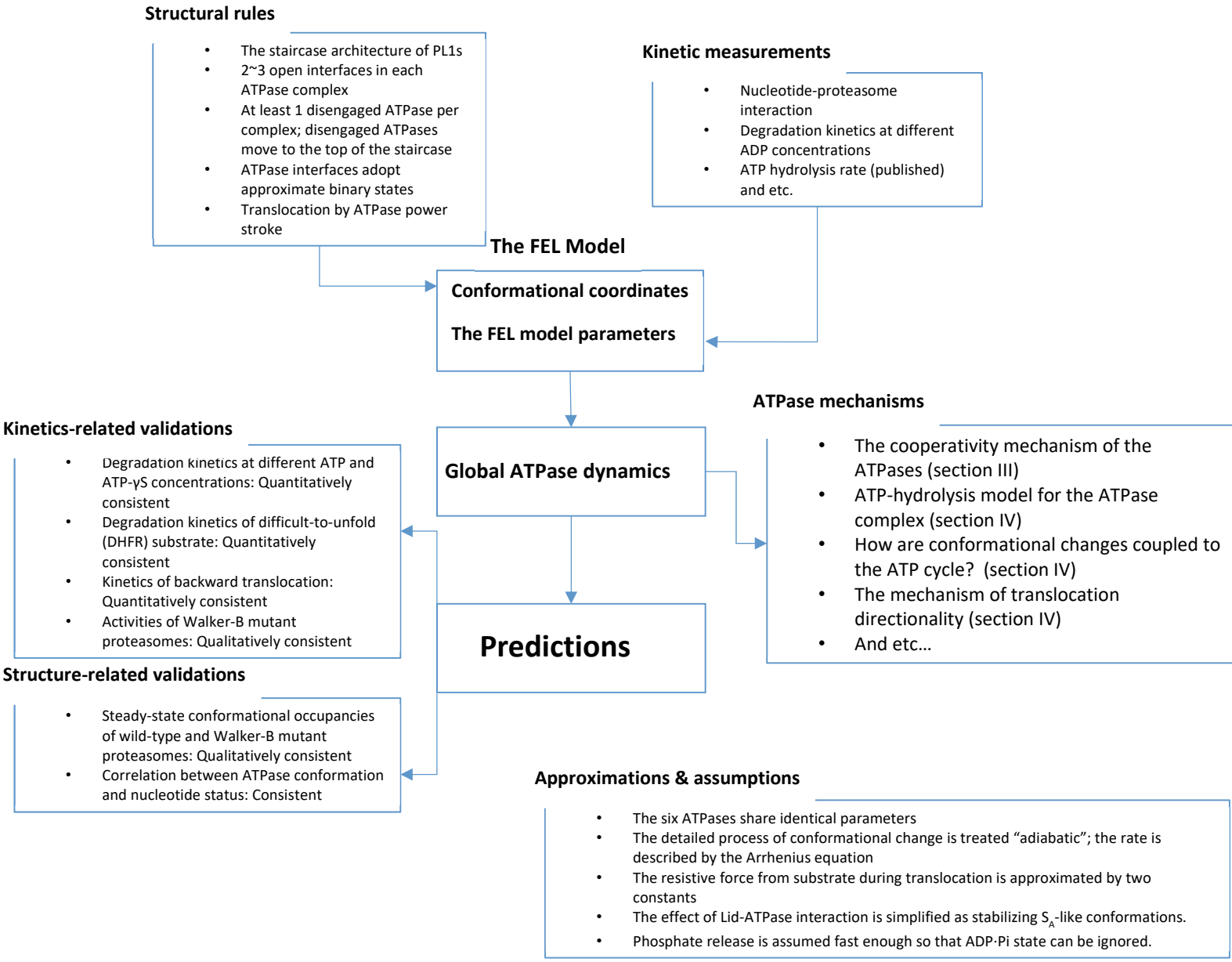


**Figure 4-figure supplement 1**. The workflow of this study, including the observations used for model construction, experimental validations of the simulated ATPase dynamics, and the major insights into the ATPase mechanism.