## SUPPLEMENTARY INFORMATION

## Supplementary Figure 1 | Sequence alignments for middle module subunits

Amino acid sequence alignments for Mediator middle module subunits from Schizosaccharomyces pombe ( $S p$, top), and Saccharomyces cerevisiae ( $S c$, bottom). Sequence identity between $S p$ and $S c$ subunits is indicated in brackets next to the protein name. Secondary structure elements are indicated above and below the sequences as observed in the $S p$ cMed structure and the available $S c$ structures (or otherwise as predicted by PSIPRED; dark gray frames), respectively (cylinders, $\alpha$-helices; arrows, $\beta$-strands; dashed lines, disordered regions). Residue conservation of $50-100 \%$ within the yeasts $S p, S c$, Candida glabrata, Candida albicans, Ashbya gossypii, Kluyveromyces lactis, and Debaryomyces hansenii is shown in color from green via yellow and orange to red (invariant). Subdomains of each $S p$ subunit, key residues for the head module binding, and known $S c$ mutations are highlighted with a green allow, a black diamond and a blue triangle, respectively. Similar alignment for head subunits Med6, Med8, Med11, Med22, Med17, Med18, and Med20 were published and used previously to obtain a highly reliable model of the $S c$ head module based on the $S p$ head module crystal structure ${ }^{13}$.


Med9 (14\%)

$$
\begin{gathered}
-1 \\
\hline
\end{gathered}
$$



 | 10 | 30 | 30 | 40 |  |
| :---: | :---: | :---: | :---: | :---: |
| $a N 1$ | $a N 2$ |  |  |  |





Med21 (30\%)


Med10 (22\%)



| Sp |  |  |
| :--- | :--- | :--- | :--- |
| Sc | $\dot{\mathrm{N}} \dot{\mathrm{T}} \dot{\mathrm{H}}$ | 144 |

$\qquad$

Med19 (19\%)


 SC $\quad \dot{P} \dot{Q} \dot{Q} \dot{G} \dot{Q} \dot{N} \dot{M}$ S | 110 | 120 | 130 | 140 | 150 |  |
| :--- | :--- | :--- | :--- | :--- | :--- |

$$
\begin{aligned}
& \overbrace{110}^{a 6} \cdots \cdots
\end{aligned}
$$


160


Med14 continuation


Med31 (25\%)


110

