**Supplementary Figures Legends**

**Figure S1:** Growth curve of *S. pastorianus* CBS 1513 cultured in wort, SD + 6% ethanol, SD media w/o leucine and SD media with all amino acids, at 13 °C (Panel A), 22 °C (Panel B) and 30 °C (Panel C).

**Figure S2:** Validation of DE genes obtained during RNA-seq by RT-qPCRs. Relative mRNA of **Panel A:** *REB1*, **Panel B**: *PRE7*, **Panel C**: *YBR241C,* **Panel D***: TDA10,* **Panel E***: POT1* and **Panel F**: *GUT2* at 13 °C vs 30 °C in SD medium, for both *S. cerevisiae*-like and *S. eubayanus*-like alleles of *S. pastorianus* CBS 1513. Error bars denote standard deviations and *p*-values are indicated as: *\* p < 0*.*05 \*\* p < 0*.*01 \*\*\*p < 0*.*001;* and ns = no significant change upon *t-test.*

**Figure S3:** **Panel A**: Venn diagram of the genes differentially expressed between growth at 13 °C and 22 °C in standard medium (SD; green), standard media without leucine (SD-Leu; blue), standard media with 6% ethanol (SD ethanol; yellow) and maltose rich medium (Wort; pink). The genes present in the intersection of all media conditions are considered temperature-dependent media-independent. **Panel B**: Histogram representing the significance (-log10(p-value)) of the GO terms enriched of the core DE genes at 13 °C vs 22 °C. Molecular function, cellular component and biological process are coloured in red, yellow and blue, respectively. **Panel C**: Venn diagram of the genes differentially expressed between growth at 22 °C and 30 °C in standard medium (SD; green), standard media without leucine (SD-Leu; blue), standard media with 6% ethanol (SD ethanol; yellow) and maltose rich medium (Wort; pink). The genes present in the intersection of all media conditions are considered temperature-dependent media-independent. **Panel D**: Histogram representing the significance (-log10(p-value)) of the GO terms enriched of the core DE genes at 22 °C vs 30 °C. Molecular function, cellular component and biological process are coloured in red, yellow and blue, respectively.

**Figure S4:** Histogram representing the total number of protein complex (Y axis) that have X different subunits (X=2\* represents homodimers and X=2 heterodimers).

**Figure S5:** Histograms representing the potential assemblies of the partially and fully redundant heterodimers and trimers, based on the expression data obtained at 13 °C, 22 °C and 30 °C, in wort, SD, SD w/o leucine and SD+ 6% ethanol media. Chimeric, uni-specific, partially and fully redundant cases are coloured in red, beige, light blue and dark blue, respectively. Inconclusive cases are coloured in light grey.