# Supplementary

# Preventive Effects of Three Polysaccharides on the Oxidative Stress Induced by Acrylamide in a *Saccharomyces cerevisiae* Model

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# Table 1

| Time (h) | vehicle | AA | | | | | SIP | | | | | FL | | | | | WCPP | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Concentration of AA (mM) | | | | | Concentration of polysaccharides (mg/mL) | | | | | | | | | | | | | | |
| | | 10 | 20 | 40 | 80 | 160 | 0.125 | 0.25 | 0.5 | 1 | 2 | 0.125 | 0.25 | 0.5 | 1 | 2 | 0.125 | 0.25 | 0.5 | 1 | 2 |
| 2 | 0.103 ± 0.006 | 0.105 ± 0.005 | 0.101 ± 0.012 | 0.102 ± 0.004 | 0.088 ± 0.003* | 0.075 ± 0.001* | 0.135 ± 0.001* | 0.138 ± 0.002* | 0.120 ± 0.006* | 0.108 ± 0.001 | 0.097 ± 0.001 | 0.104 ± 0.006 | 0.101 ± 0.007 | 0.099 ± 0.005 | 0.098 ± 0.005 | 0.095 ± 0.001 | 0.130 ± 0.003* | 0.130 ± 0.002* | 0.119 ± 0.005* | 0.099 ± 0.002 | 0.113 ± 0.001 |
| 4 | 0.259 ± 0.003 | 0.263 ± 0.011 | 0.246 ± 0.011 | 0.228 ± 0.008* | 0.155 ± 0.006* | 0.109 ± 0.001* | 0.321 ± 0.006* | 0.333 ± 0.002* | 0.280 ± 0.012* | 0.278 ± 0.004* | 0.251 ± 0.005 | 0.247 ± 0.015 | 0.262 ± 0.018 | 0.248 ± 0.013 | 0.251 ± 0.010 | 0.249 ± 0.009 | 0.323 ± 0.003* | 0.328 ± 0.004* | 0.313 ± 0.014* | 0.279 ± 0.010 | 0.258 ± 0.006 |
| 6 | 0.531 ± 0.003 | 0.547 ± 0.017 | 0.496 ± 0.022 | 0.424 ± 0.016* | 0.267 ± 0.003* | 0.155 ± 0.002* | 0.651 ± 0.005* | 0.655 ± 0.006* | 0.594 ± 0.015* | 0.565 ± 0.006* | 0.506 ± 0.015 | 0.541 ± 0.027 | 0.541 ± 0.034 | 0.536 ± 0.032 | 0.528 ± 0.015 | 0.520 ± 0.013 | 0.639 ± 0.007* | 0.644 ± 0.008* | 0.638 ± 0.018* | 0.613 ± 0.011* | 0.561 ± 0.007* |
| 8 | 0.999 ± 0.017 | 0.926 ± 0.026* | 0.860 ± 0.016* | 0.719 ± 0.012* | 0.421 ± 0.012* | 0.192 ± 0.003* | 1.055 ± 0.003* | 1.057 ± 0.005* | 1.025 ± 0.018 | 0.970 ± 0.006 | 0.931 ± 0.034 | 0.936 ± 0.032 | 0.949 ± 0.031 | 0.935 ± 0.026* | 0.927 ± 0.020* | 0.921 ± 0.023* | 1.055 ± 0.003* | 1.057 ± 0.005* | 1.025 ± 0.018 | 0.970 ± 0.006 | 0.931 ± 0.034 |
| 10 | 1.419 ± 0.005 | 1.374 ± 0.029 | 1.270 ± 0.034* | 1.117 ± 0.026* | 0.629 ± 0.006* | 0.229 ± 0.005* | 1.515 ± 0.008* | 1.514 ± 0.008* | 1.476 ± 0.021* | 1.402 ± 0.009* | 1.406 ± 0.013 | 1.399 ± 0.028 | 1.426 ± 0.034 | 1.426 ± 0.029 | 1.401 ± 0.023 | 1.388 ± 0.017 | 1.508 ± 0.005* | 1.532 ± 0.006* | 1.516 ± 0.020* | 1.500 ± 0.006* | 1.438 ± 0.018 |
| 12 | 1.493 ± 0.022 | 1.551 ± 0.024* | 1.513 ± 0.029 | 1.444 ± 0.026 | 0.892 ± 0.015* | 0.255 ± 0.006* | 1.602 ± 0.003* | 1.625 ± 0.010* | 1.639 ± 0.014* | 1.593 ± 0.005* | 1.488 ± 0.017 | 1.548 ± 0.014* | 1.550 ± 0.025* | 1.514 ± 0.024 | 1.511 ± 0.013 | 1.519 ± 0.030 | 1.604 ± 0.004* | 1.616 ± 0.012* | 1.622 ± 0.018* | 1.606 ± 0.010* | 1.533 ± 0.004 |
| 14 | 1.581 ± 0.018 | 1.580 ± 0.024 | 1.512 ± 0.026* | 1.445 ± 0.019* | 1.068 ± 0.004* | 0.276 ± 0.009* | 1.623 ± 0.002* | 1.642 ± 0.012* | 1.648 ± 0.014* | 1.601 ± 0.011 | 1.567 ± 0.023 | 1.545 ± 0.006 | 1.568 ± 0.021 | 1.553 ± 0.021 | 1.567 ± 0.009 | 1.525 ± 0.034 | 1.623 ± 0.002* | 1.642 ± 0.012* | 1.648 ± 0.014* | 1.601 ± 0.011 | 1.567 ± 0.023 |
| 16 | 1.637 ± 0.034 | 1.654 ± 0.026 | 1.619 ± 0.027 | 1.496 ± 0.031* | 1.285 ± 0.015* | 0.295 ± 0.013* | 1.729 ± 0.005* | 1.746 ± 0.010* | 1.763 ± 0.015* | 1.718 ± 0.004* | 1.671 ± 0.017 | 1.647 ± 0.013 | 1.658 ± 0.020 | 1.645 ± 0.018 | 1.659 ± 0.010 | 1.623 ± 0.018 | 1.733 ± 0.001* | 1.762 ± 0.006* | 1.758 ± 0.013* | 1.718 ± 0.006 | 1.701 ± 0.002 |
| 18 | 1.760 ± 0.014 | 1.757 ± 0.009 | 1.713 ± 0.027 | 1.559 ± 0.022* | 1.291 ± 0.017* | 0.291 ± 0.005* | 1.824 ± 0.004* | 1.826 ± 0.008* | 1.818 ± 0.015* | 1.804 ± 0.010* | 1.713 ± 0.016* | 1.717 ± 0.026 | 1.733 ± 0.033 | 1.756 ± 0.029 | 1.723 ± 0.017 | 1.701 ± 0.013* | 1.856 ± 0.005* | 1.847 ± 0.005* | 1.862 ± 0.017* | 1.836 ± 0.008* | 1.749 ± 0.022 |
| 20 | 1.819 ± 0.024 | 1.773 ± 0.020 | 1.697 ± 0.030* | 1.597 ± 0.030* | 1.287 ± 0.019* | 0.275 ± 0.004* | 1.876 ± 0.006* | 1.877 ± 0.008* | 1.875 ± 0.019* | 1.843 ± 0.007 | 1.785 ± 0.009 | 1.834 ± 0.024 | 1.825 ± 0.029 | 1.824 ± 0.023 | 1.807 ± 0.021 | 1.773 ± 0.008 | 1.916 ± 0.014* | 1.926 ± 0.018* | 1.949 ± 0.014* | 1.860 ± 0.035 | 1.752 ± 0.023* |

**Table 1** The OD630 values of different groups of yeasts at each time. * indicated $p<0.05$ vs. corresponding time point at vehicle group

# Table 2

| Time (h) | vehicle | 80mM AA | SIP+80mM AA | | | | | FL+80mM AA | | | | | WCPP+80mM AA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Concentration of polysaccharides (mg/mL) | | | | | | | | | | | | | | |
| | | | 0.125 | 0.25 | 0.5 | 1 | 2 | 0.125 | 0.25 | 0.5 | 1 | 2 | 0.125 | 0.25 | 0.5 | 1 | 2 |
| 2 | 0.093 ±0.005* | 0.082 ±0.002 | 0.122 ±0.012 * | 0.112 ±0.001* | 0.108 ±0.005 * | 0.094 ±0.001* | 0.090 ±0.001* | 0.092 ±0.004 * | 0.093 ±0.005 * | 0.090 ±0.004* | 0.088 ±0.002 * | 0.084 ±0.002 | 0.106 ±0.005* | 0.104 ±0.004* | 0.100 ±0.003 * | 0.088 ±0.001 * | 0.087 ±0.002* |
| 4 | 0.219 ±0.005* | 0.130 ±0.001 | 0.193 ±0.010 * | 0.183 ±0.001 * | 0.175 ±0.009 * | 0.151 ±0.002 * | 0.140 ±0.001* | 0.151 ±0.006 * | 0.153 ±0.007* | 0.154 ±0.006* | 0.148 ±0.002 * | 0.144 ±0.003* | 0.169 ±0.008 * | 0.168 ±0.006 * | 0.162 ±0.006 * | 0.144 ±0.001 * | 0.136 ±0.002 * |
| 6 | 0.461 ±0.007* | 0.226 ±0.003 | 0.303 ±0.008 * | 0.297 ±0.004 * | 0.285 ±0.012 * | 0.253 ±0.001 * | 0.221 ±0.003 | 0.222 ±0.009 | 0.258 ±0.012 * | 0.260 ±0.009 * | 0.246 ±0.005 * | 0.236 ±0.002 * | 0.263 ±0.009 * | 0.264 ±0.008 * | 0.256 ±0.008 * | 0.232 ±0.002 | 0.232 ±0.004 |
| 8 | 0.845 ±0.011* | 0.362 ±0.007 | 0.469 ±0.005 * | 0.459 ±0.005 * | 0.450 ±0.017 * | 0.400 ±0.005 * | 0.353 ±0.002 | 0.374 ±0.017 | 0.406 ±0.017 * | 0.413 ±0.015 * | 0.384 ±0.006 * | 0.375 ±0.008 | 0.405 ±0.012 * | 0.400 ±0.005 * | 0.398 ±0.015 * | 0.365 ±0.005 | 0.346 ±0.008 |
| 10 | 1.335 ±0.004* | 0.581 ±0.012 | 0.676 ±0.005* | 0.648 ±0.003 * | 0.647 ±0.007 * | 0.601 ±0.009 * | 0.543 ±0.002* | 0.561 ±0.022 | 0.613 ±0.022 | 0.633 ±0.020 * | 0.599 ±0.012 * | 0.591 ±0.010 | 0.634 ±0.042 | 0.632 ±0.017 * | 0.604 ±0.031 | 0.573 ±0.020 | 0.528 ±0.000 * |
| 12 | 1.478 ±0.009* | 0.742 ±0.007 | 0.912 ±0.008 * | 0.880 ±0.005 * | 0.862 ±0.011 * | 0.807 ±0.012 * | 0.742 ±0.009 | 0.784 ±0.015 * | 0.846 ±0.031* | 0.858 ±0.018 * | 0.827 ±0.013 * | 0.839 ±0.012* | 0.824 ±0.004 * | 0.820 ±0.006 * | 0.828 ±0.012* | 0.774 ±0.002* | 0.731 ±0.019 |
| 14 | 1.540 ±0.021* | 0.985 ±0.007 | 1.158 ±0.009 * | 1.117 ±0.004 * | 1.109 ±0.014 * | 1.044 ±0.006 * | 0.961 ±0.009* | 1.012 ±0.022 | 1.091 ±0.030 * | 1.105 ±0.022 * | 1.068 ±0.016 * | 1.051 ±0.015 * | 1.038 ±0.012 * | 1.056 ±0.004 * | 1.067 ±0.022 * | 1.026 ±0.003 * | 0.992 ±0.012 |
| 16 | 1.609 ±0.019* | 1.173 ±0.003 | 1.303 ±0.006 * | 1.289 ±0.005 * | 1.270 ±0.011 * | 1.217 ±0.004 * | 1.147 ±0.007 * | 1.205 ±0.021 | 1.247 ±0.025 * | 1.254 ±0.021 * | 1.224 ±0.016 * | 1.216 ±0.013 * | 1.225 ±0.009 * | 1.272 ±0.003 * | 1.267 ±0.014 * | 1.239 ±0.015* | 1.176 ±0.014 |
| 18 | 1.702 ±0.005* | 1.220 ±0.005 | 1.335 ±0.005 * | 1.321 ±0.007 * | 1.337 ±0.016 * | 1.301 ±0.015 * | 1.236 ±0.011 | 1.249 ±0.025 | 1.270 ±0.027 * | 1.271 ±0.020 * | 1.262 ±0.021 * | 1.223 ±0.017 | 1.298 ±0.004 * | 1.318 ±0.001 * | 1.331 ±0.015 * | 1.295 ±0.003 * | 1.251 ±0.013 * |
| 20 | 1.811 ±0.016* | 1.226 ±0.007 | 1.339 ±0.022 * | 1.342 ±0.007 * | 1.344 ±0.006 * | 1.293 ±0.010 * | 1.242 ±0.003 | 1.282 ±0.029 | 1.306 ±0.031 * | 1.309 ±0.036 * | 1.281 ±0.020 * | 1.263 ±0.016 * | 1.279 ±0.008 * | 1.301 ±0.005 * | 1.294 ±0.016 * | 1.251 ±0.013 | 1.229 ±0.009 |

**Table 2** The OD630 values of different groups of yeasts at each time. * indicated $p<0.05$ vs. corresponding time point at vehicle group