

Single-cell evaluation of red blood cell bio-mechanical and nano-structural alterations upon chemically induced oxidative stress

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Table S1. Statistics related to the micropipette analyses.

Fig. S2. RBCs treated with higher H₂O₂ concentrations resulted in increased deformability. Data is represented as median ± range.

Table S3. Statistical assessment of the AFM images to estimate spectrin length.

Supplemental: S1

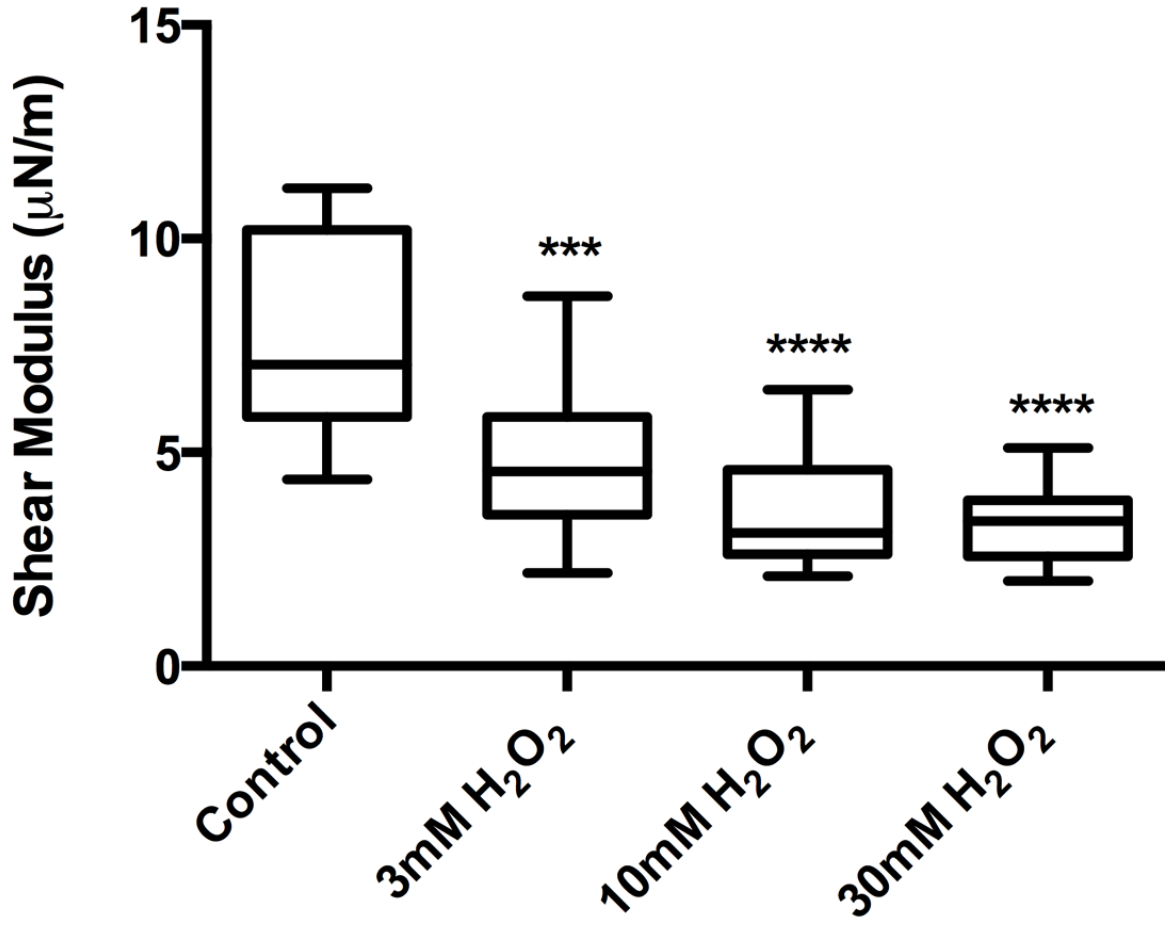
Table S1.

Statistical assessment of the Micropipette data: Deformability

| H₂O₂ | Control | 0.3mM | 1mM | 3mM |
|-----------------------------------|--------------------------|--------------|--------------|------------|
| | Mean ($\mu\text{N/m}$) | 8.888 | 7.515 | 6.613 |
| Standard Deviation | 1.702 | 1.73 | 1.336 | 0.8793 |
| Standard Error of Mean | 0.3805 | 0.3868 | 0.2987 | 0.1966 |
| Diamide | | | | |
| Diamide | Control | 0.3mM | 1mM | 3mM |
| | Mean ($\mu\text{N/m}$) | 7.107 | 9.615 | 11.83 |
| Standard Deviation | 1.76 | 1.319 | 2.847 | 5.045 |
| Standard Error of Mean | 0.4546 | 0.3406 | 0.7352 | 1.303 |
| Primaquine | | | | |
| Primaquine | Control | 0.3mM | 1mM | 3mM |
| | Mean ($\mu\text{N/m}$) | 4.19 | 5.266 | 6.503 |
| Standard Deviation | 0.5098 | 1.662 | 1.688 | 3.579 |
| Standard Error of Mean | 0.114 | 0.3717 | 0.3774 | 0.8003 |
| CumOOH | | | | |
| CumOOH | Control | 0.1mM | 0.3mM | 1mM |
| | Mean ($\mu\text{N/m}$) | 5.779 | 6.949 | 13.2 |
| Standard Deviation | 1.375 | 1.712 | 4.623 | - |
| Standard Error of Mean | 0.355 | 0.442 | 1.194 | - |

| H₂O₂ | Control | 3mM | 10mM | 30mM |
|-----------------------------------|--------------------------|------------|-------------|-------------|
| | Mean ($\mu\text{N/m}$) | 7.522 | 4.961 | 3.722 |
| Standard Deviation | 2.199 | 2.095 | 1.396 | 0.8685 |
| Standard Error of Mean | 0.5678 | 0.5409 | 0.3605 | 0.2242 |

Supplemental: S2



Supplemental: S3

Table S3.

Statistical assessment of the AFM data: spectrin length

| | Control | H₂O₂ | Diamide | Primaquine |
|------------------------------|----------------|-----------------------------------|----------------|-------------------|
| Mean (nm) | 34.5 | 32 | 22.7 | 23.2 |
| Standard Deviation | 4.47 | 3.86 | 3.41 | 3.48 |
| Standar Error of Mean | 0.4682 | 0.3856 | 0.3378 | 0.3727 |
| Number of values | 91 | 100 | 102 | 87 |