**Table S1.** **Affymetrix® expression analysis of NHDF treated with HA vs. control** showing the 50 most upregulated genes (FC = fold change)

**Table S2.** **Affymetrix® expression analysis of NHDF treated with HA vs. control** showing the 50 most downregulated genes (FC = fold change).



**Table S3.** **Affymetrix® expression analysis of NHDF treated with medium-sized HA vs. control** showing the 50 most upregulated genes (FC = fold change).



**Table S4.** **Affymetrix® expression analysis of NHDF treated with medium-sized HA vs. control** showing the 50 most downregulated genes (FC = fold change).



**Table S5.** **Affymetrix® expression analysis of NHDF treated with HYAL vs. control** showing the 50 most upregulated genes (FC = fold change).



**Table S6.** **Affymetrix® expression analysis of NHDF treated with HYAL vs. control** showing the 50 most downregulated genes (FC = fold change).



**Figure S1.** (A, C) HAS1, HAS3 gene expression levels in normal human dermal fibroblasts (NHDF) after stimulation with 1 mg/ml HA, 1.5 U/ml HYAL and HA+HYAL co-stimulation for 2 h, 4 h, 12 h and 24 h, (B, D) HAS1, HAS3 gene expression levels of NHDF after stimulation with 15 U/ml, 1.5 U/ml, 0.15 U/ml and 0.015 U/ml HYAL for 24 h. Asterisks above columns indicate statistical significant differences compared to their respective medium controls. \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001 (t-test, two-sided).



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**Figure S2.** (A, C, E) HAS1, HAS2, HAS3 gene expression levels in primary human keratinocytes after stimulation with 1 mg/ml HA, 1.5 U/ml HYAL and HA+HYAL co-stimulation for 2 h, 4 h, 12 h and 24 h, (B, D, F) HAS1, HAS2, HAS3 gene expression levels in keratinocytes after stimulation with 15 U/ml, 1.5 U/ml, 0.15 U/ml and 0.015 U/ml HYAL for 24 h, (G, H) HA amount (ng/ml) measurement by means of ELISA in supernatants of NHDF treated as described in A-F. Asterisks above columns indicate statistical significant differences compared to their respective medium controls. \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001 (t-test, two-sided).