

**Figure 1. Association of negative control signatures with overall survival.** In plots A–C the NKI cohort was split into two groups using a signature of post-prandial laughter (panel A), localization of skin fibroblasts (panel B), social defeat in mice (panel C). In panels A–C, the fraction of patients alive (overall survival, OS) is shown as a function of time for both groups. Hazard ratios (HR) between groups and their associated p-values are given in bottom-left corners. Panel D depicts p-values for association with outcome for all MSigDB c2 signatures and random signatures of identical size as MSigDB c2 signatures.

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