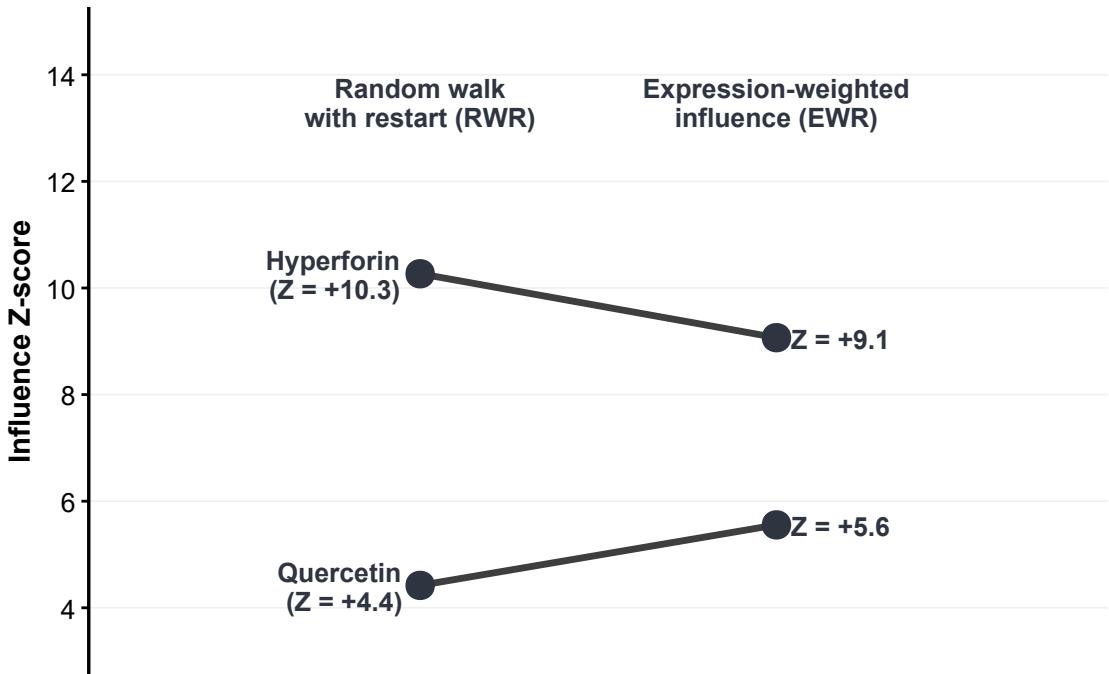


Ranking stability under biological constraint

Expression weighting preserves the influence hierarchy



[BIOLOGICAL VALIDATION] Expression weighting tests whether influence rankings are robust to tissue-specific constraints. Parallel slopes indicate ranking stability. Both methods use independent permutation null models ($n = 1,000$ each). GTEx liver expression (TPM ≥ 1) weights edge transitions in EWI. Data: STRING v12.0 (≥ 900).