



Fig. 4. Control of noise. (A) Infrequent transcription followed by efficient translation results in high intrinsic noise in protein levels (left); frequent transcription and inefficient translation results in low intrinsic noise (right). (B) Infrequent promoter transitions between inactive and active states followed by efficient transcription result in high intrinsic noise in mRNA levels (left); frequent promoter transitions followed by inefficient transcription result in low intrinsic noise (right). (C) Increases in gene copy number through polyploidy (top right) or gene duplication (bottom right) result in decreased intrinsic noise relative to a single gene copy (left). (D) Negative feedback, as when a transcription factor represses its own transcription (right), results in decreased noise relative to a linear pathway (left).