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(54) **Title:** SENSITIVE PREPARATION AND AMPLIFICATION OF EUKARYOTIC DERIVED NUCLEIC ACID FOR TRANSCRIPTIONAL PROFILING

(57) **Abstract:** A method for global amplification of c DNA from an RNA template is described. The c DNA produced retains the same relative abundance across the sample as the RNA transcripts from which it is produced. Embodiments of the method are sensitive enough to produce c DNA from samples equivalent to single cell amounts of RNA. The method comprises the steps of: a) reverse transcription of the template RNA population, to produce a global c DNA population; b) homopolymer tailing the c DNA population, to produce c DNA molecules having a homopolymer tail; and c) amplifying the tailed global c DNA; wherein at least one of steps (a) and (b), and preferably both, is/are effected in the presence of an acetate buffer. In preferred embodiments, step (a) is carried out in the presence of a non specific RNA template (NSRT) which does not comprise sequences found in the target; for example, the target may be mammalian RNA and the NSRT may be lambda phage RNA. Also in preferred embodiments, step (b) is carried out in the presence of Co Cl₂.

