The argyrophilic staining of the nucleolar organizer regions (AgNOR positive response) in interphase nuclei is often related directly to the cellular demand for ribosome biogenesis and is considered of relevance in studies of tumor pathology. Transformation of human breast epithelial MCF-10A cells by the c-Ha-ras oncogene results in altered growth, invasiveness and tumorigenicity in nude mice. Since ras transformation may be associated with a more intense nucleolar activity, we examined the influence of transfection by the Ha-ras oncogene on AgNOR staining response in MCF-10A cells. Following assessment of the AgNOR response with video image analysis, the AgNOR-positive areas and the AgNOR area/nuclear area ratio, but not the number of AgNOR aggregates or dots per nucleus, were found to be much higher after ras transformation. A role of the Ha-ras transformation on the nucleolar activity of the MCF-10A is thus suggested as assessed by the AgNOR staining. Based on data in the literature, it is also hypothesized that a decreased wild-type p53 level, possibly promoted by the ras transformation, may be associated with the increased AgNOR response.