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(54) **Title:** NICOTINAMIDE ADENINE DINUCLEOTIDE (NAD) COMPOSITIONS, METHODS OF MANUFACTURING THEREOF, AND METHODS OF USE THEREOF

FIG. 8

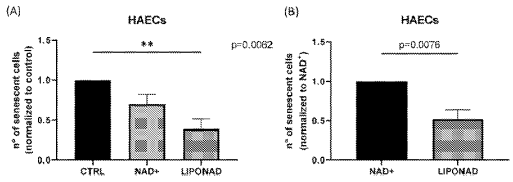


Figure 8. Cellular senescence results in human aortic endothelial cells (HAECs) (A) Comparison among untreated cells, cells treated with NAD+ and LIPONAD. (B) Comparison between cells treated with NAD+ alone and LIPONAD.

FIG. 9

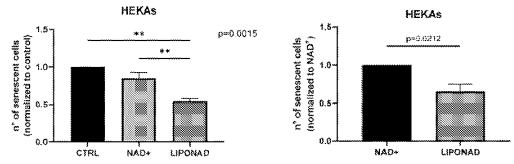


Figure 9. Cellular senescence results in human epidermal keratinocytes (HEKas) (A) Comparison among untreated cells, cells treated with NAD+ and LIPONAD. (B) Comparison between cells treated with NAD+ alone and LIPONAD.

(57) **Abstract:** Disclosed herein are compositions that include nicotinamide adenine dinucleotide (NAD), precursors thereof, derivatives thereof, or mixtures thereof encapsulated in a liposome, wherein the compositions exhibit enhanced chemical, physical, and/or microbial storage stability at a variety of storage temperatures. In certain embodiments, the compositions are stable and have positive permeability and senescence results. Also disclosed herein are methods for preparing such compositions and methods of using such compositions.

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