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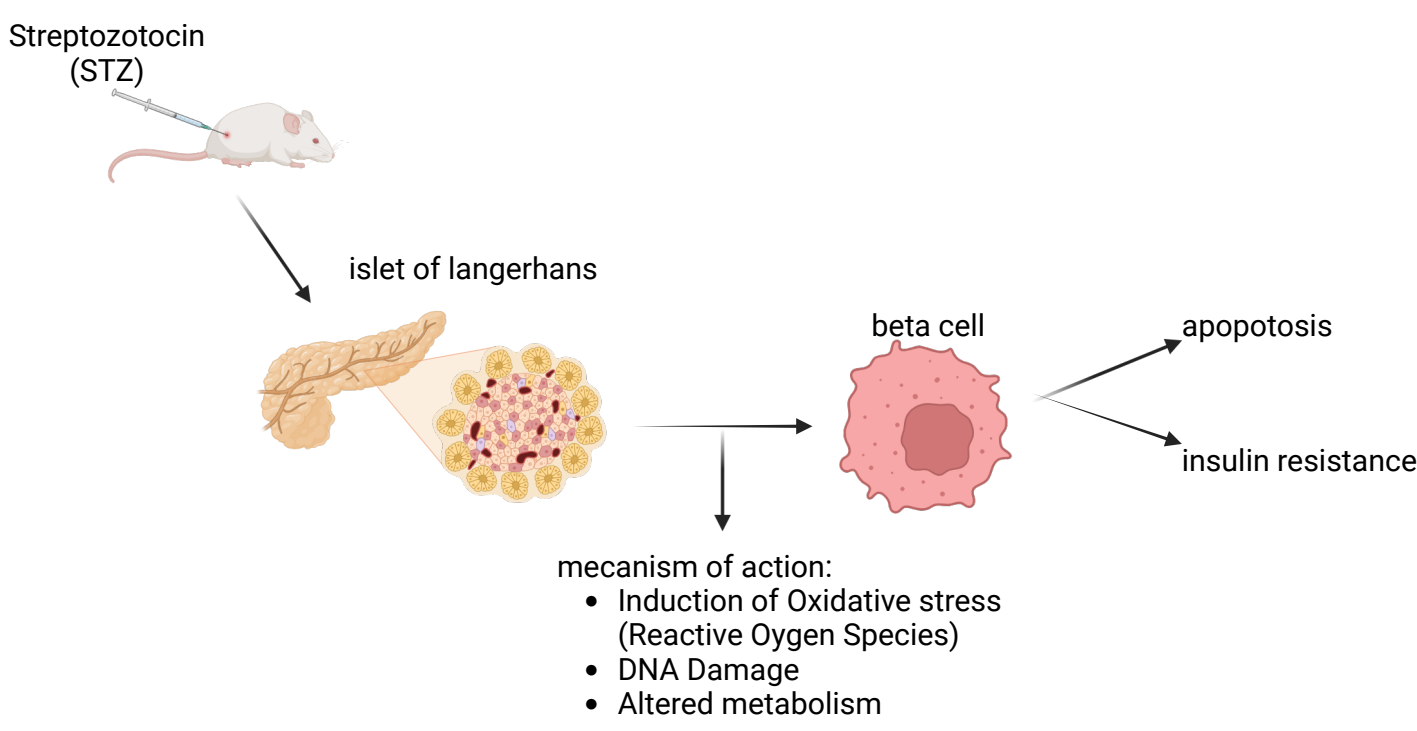
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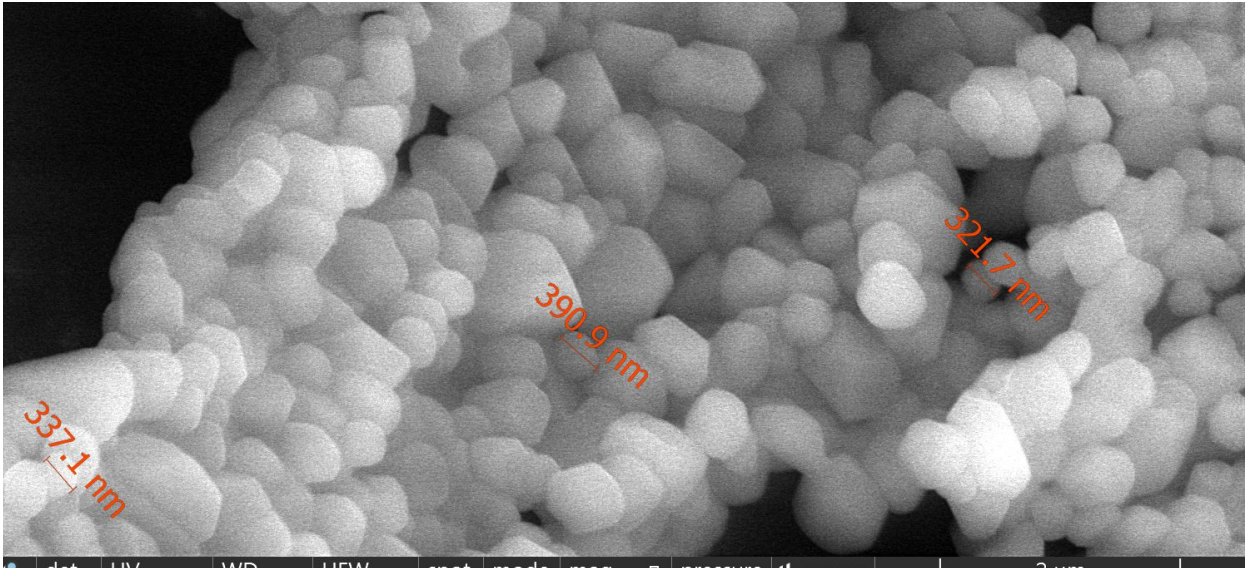
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BACKGROUND

- Nicotinamide is a promising molecule that protect cell from oxidative stress, by decreasing the production of reactive oxygen species.
- Encapsulating nicotinamide in liposomal systems enhances its bioavailability and efficacy.

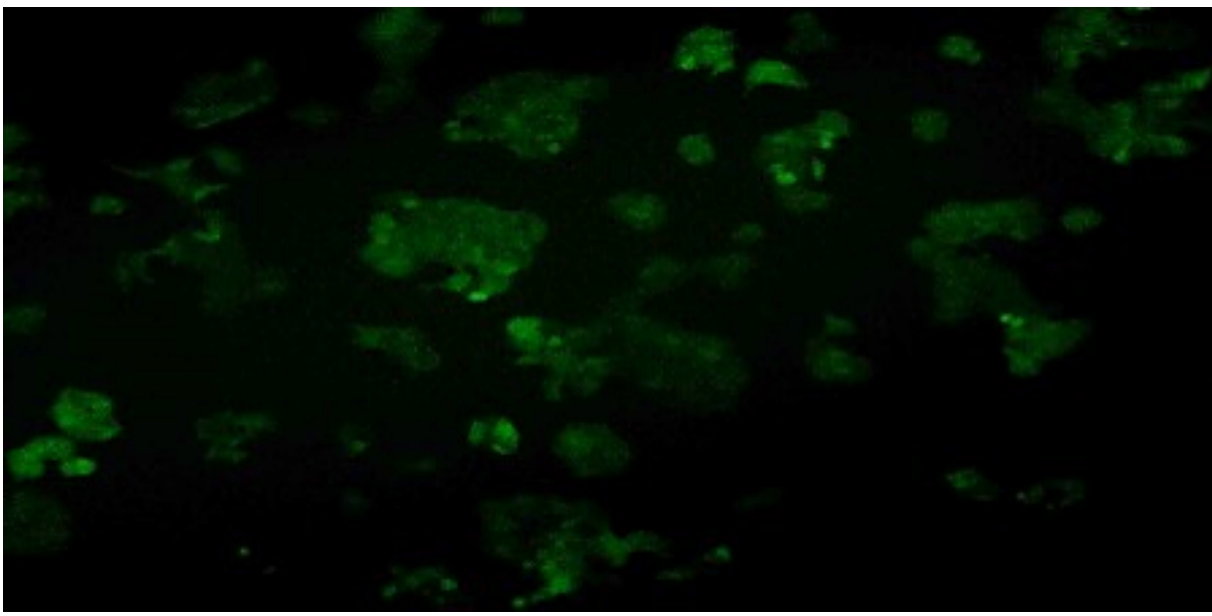


CHARACTERIZATION

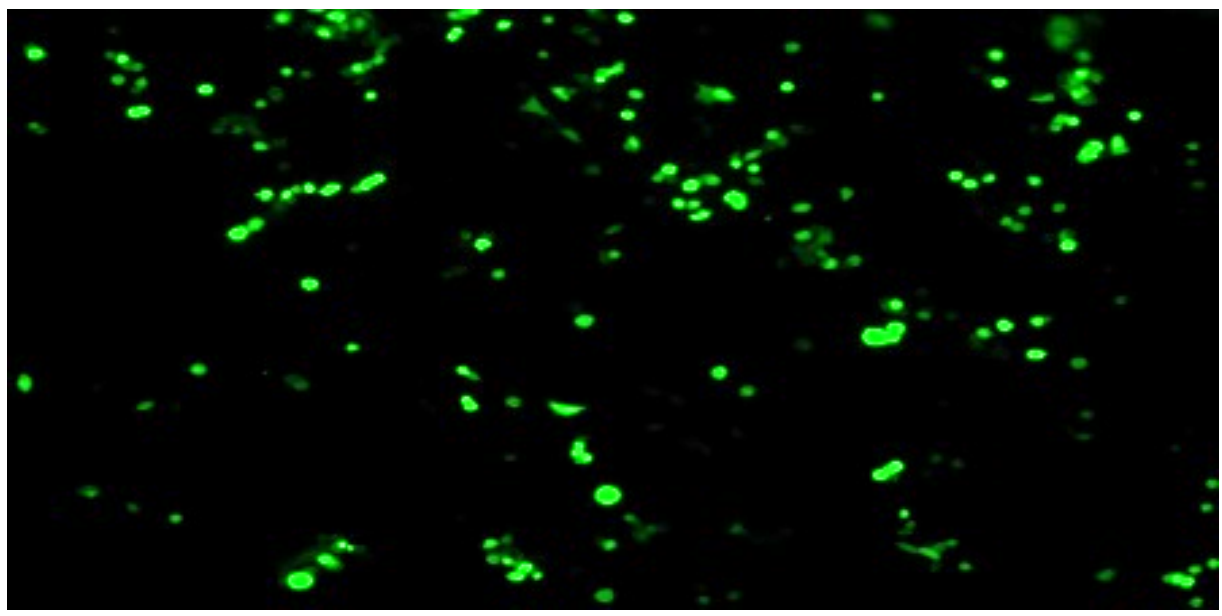


Liposomes found are spherical vesicles, with 200 nm to 400 nm in diameter, and EE% of 62%.

RESULTS



control



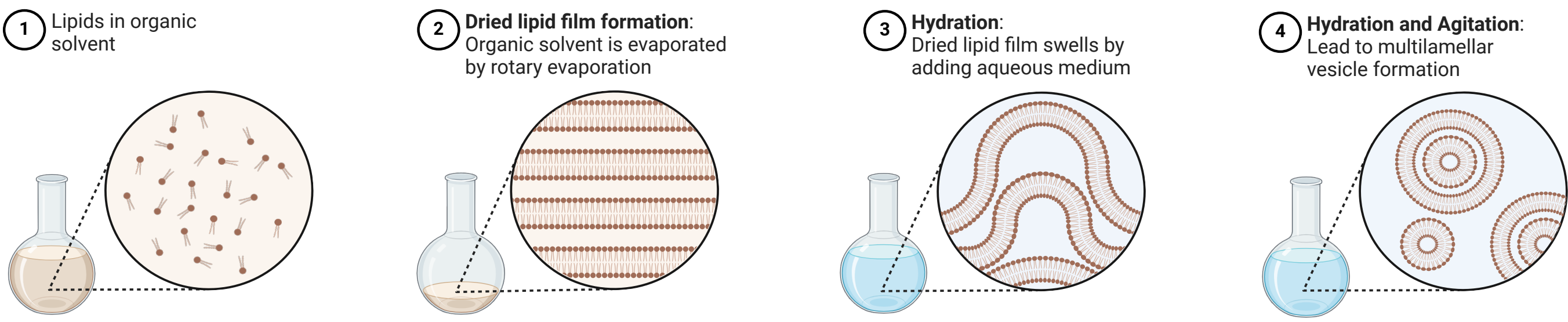
cell in presence of STZ

OBJECTIF

- Evaluate the protective effect of liposome-encapsulated nicotinamide on pancreatic beta cells exposed to STZ-induced oxidative stress.
- Analyze the effectiveness of the liposomal delivery system in enhancing nicotinamide's bioavailability and efficacy against oxidative stress.

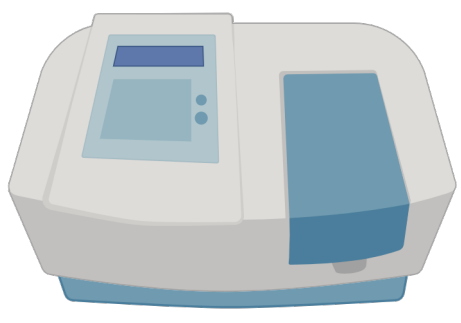
METHODS

Liposome Preparation via Thin Film Hydration

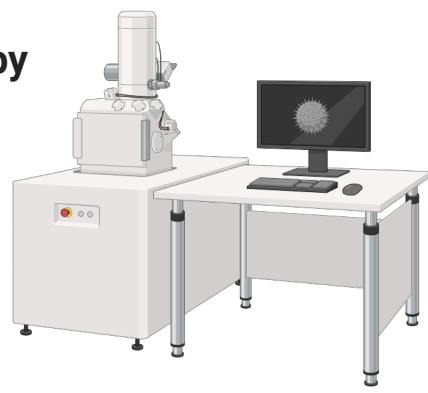


Characterisation encapsulation efficiency and morphology

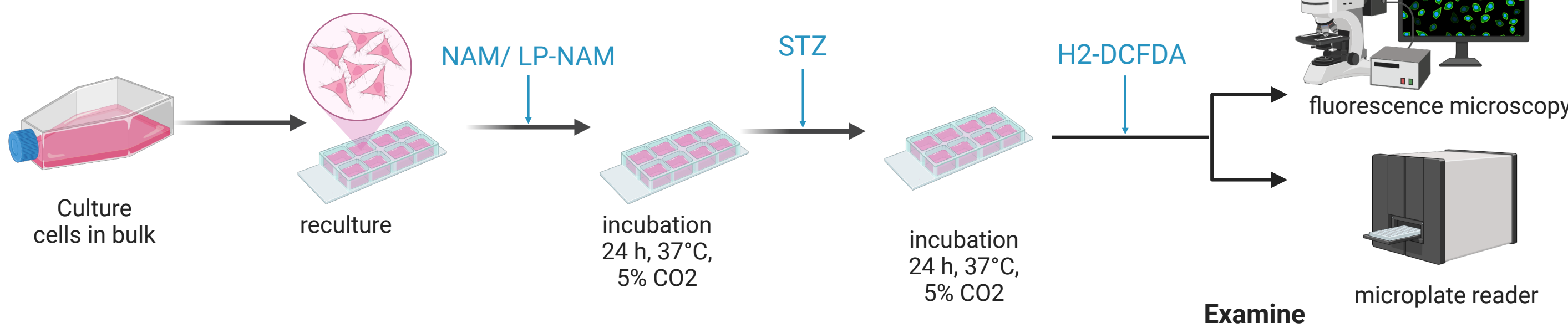
① UV Spectroscopy



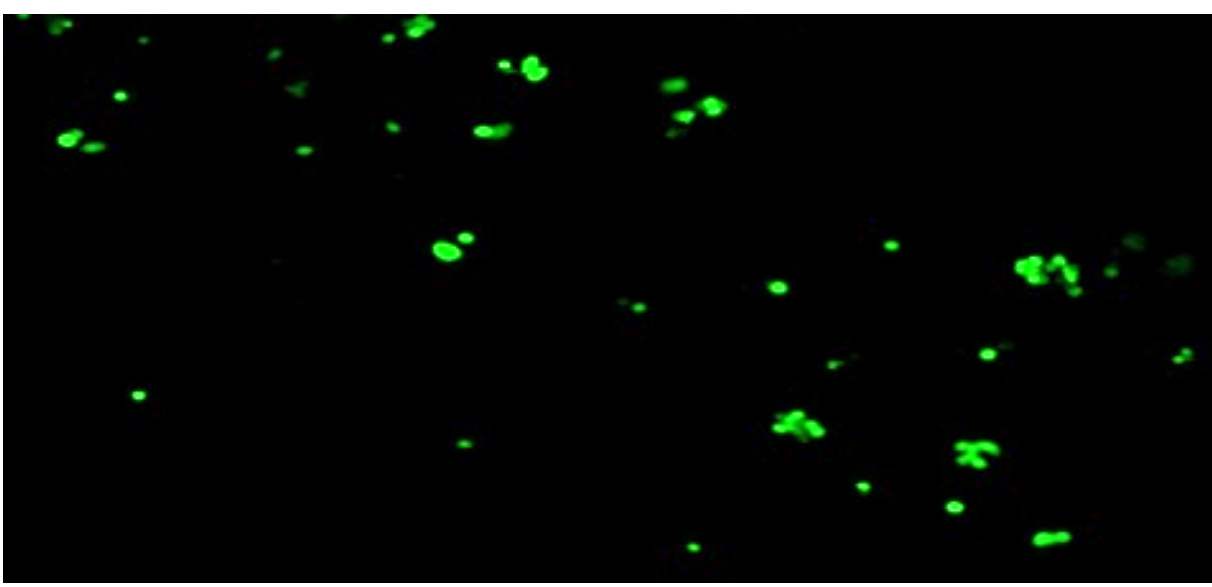
② Scanning Electron Microscopy



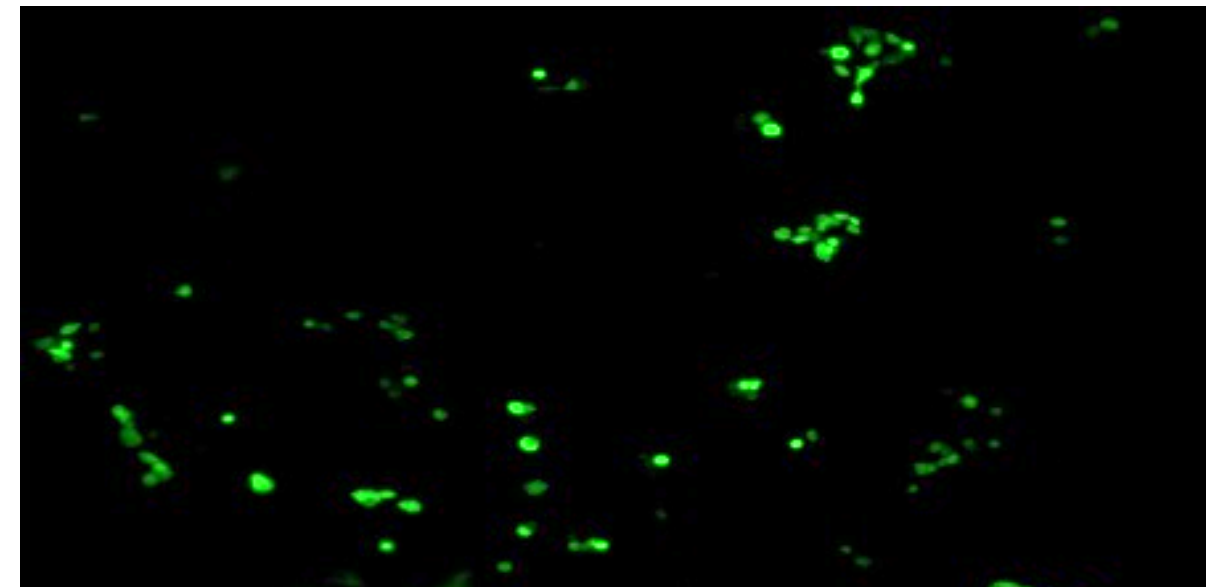
Cell Culture Reactive Oxygen Species Analysis



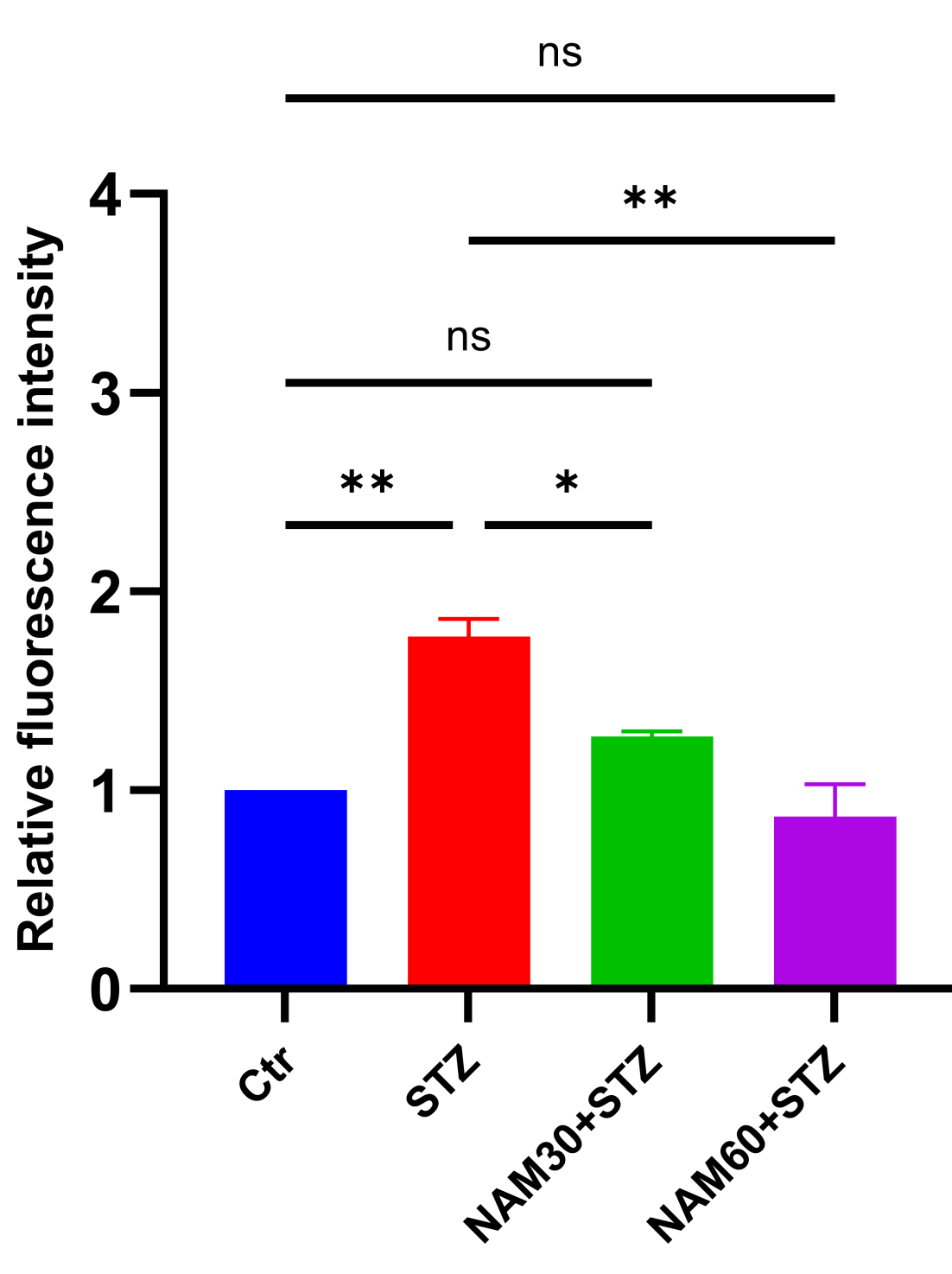
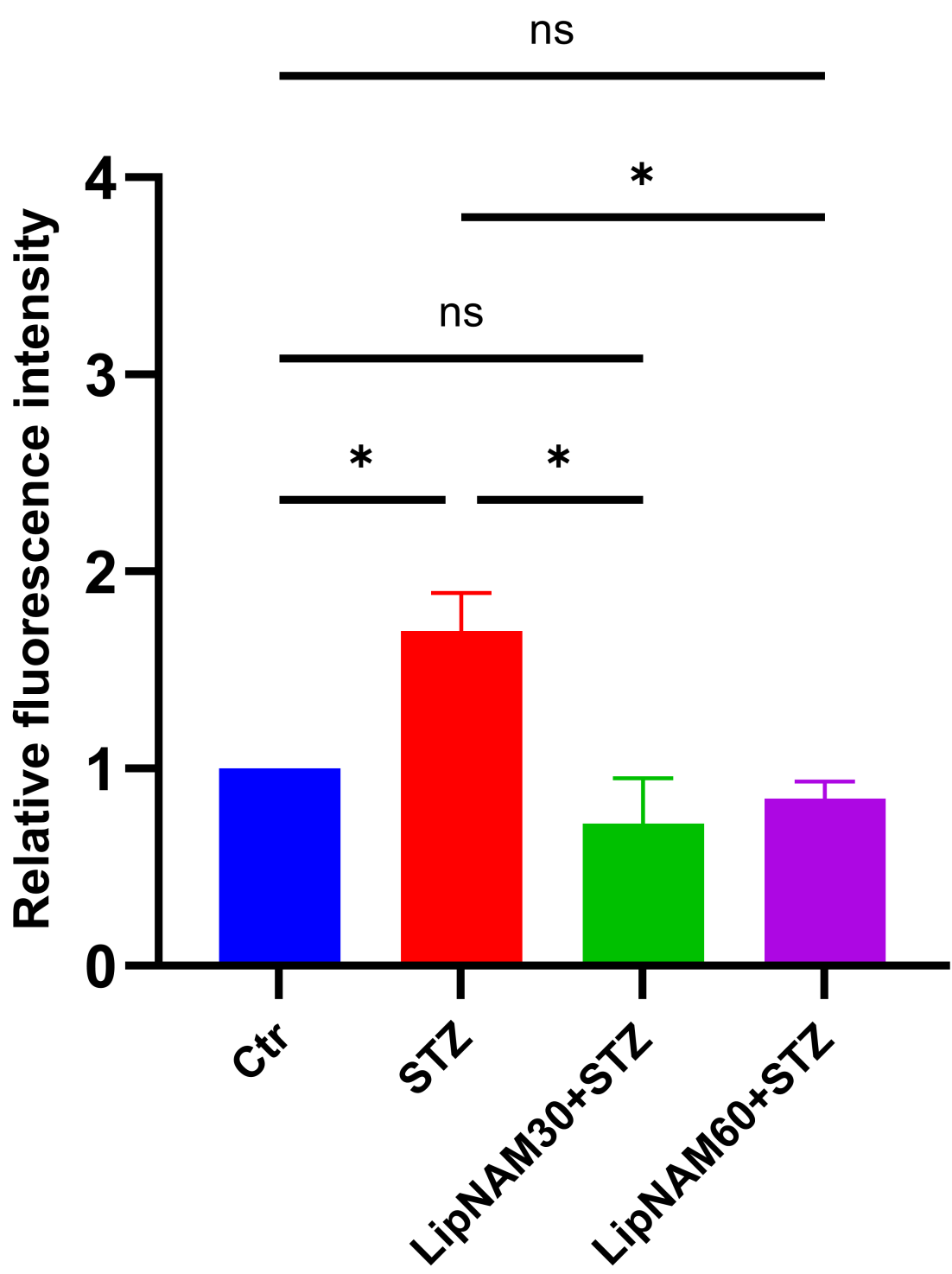
RESULTS



cells in treated with free nicotinamide



cells treated with liposome loaded nicotinamide



CONCLUSION

- STZ treatment significantly increases ROS generation in pancreatic beta cells, indicating oxidative stress.
- Encapsulated nicotinamide in liposomes further decreases ROS, enhancing efficacy through targeted delivery.
- Liposome-encapsulated nicotinamide is a promising approach for protecting pancreatic beta cells from oxidative damage.