

Abstract

Does it matter that **rodents** used as preclinical models of human biology are routinely housed below their thermoneutral zone? We compile evidence showing that such **rodents** are **cold-stressed**, hypermetabolic, hypertensive, sleep-deprived, obesity-resistant, fever-resistant, aging-resistant, and tumor-prone compared with mice housed at thermoneutrality. The same genotype of mouse has a very different phenotype and response to physiological or pharmacological intervention when raised below or at thermoneutrality.