

Congress of the United States

Washington, DC 20515

September 30, 2026

The Honorable Hung Cao
Secretary of the Navy
1000 Navy Pentagon
Washington, DC 20350

Dear Secretary Cao:

We are writing to express our strong concern regarding the Department of the Navy funded research projects involving the use of swine in hyperbaric diving experiments, specifically the recent study conducted at Duke University utilizing animal models to test breathing gas switches involving carbon tetrafluoride.

While we recognize the vital importance of ensuring the safety, health, and operational readiness of our divers and submariners, we remain deeply troubled by the continued reliance on animal testing when novel scientific methods and advanced models exist and should be fully exhausted^{1,2}. Specifically, the research recently published titled "Isobaric counterdiffusion of carbon tetrafluoride breathing gas to prevent severe decompression sickness³" subjected juvenile swine to extreme pressure profiles, rapid decompressions, and severe physiological distress to evaluate decompression sickness mitigation, leading to mortality for some of the swine.

As advocates for animal welfare standards, we question whether the Department has thoroughly exhausted non-animal methodologies. We request that the Department of the Navy provide responses to the following questions within 30 days:

- Have there been instances on where alternative methods are the preferred method to live, animal testing? If so, what were the reasonings behind those decisions and the effectiveness of the results?
- What specific validation protocols are used to ensure that all non-animal testing alternatives are fully exhausted before any animal models are approved for use?
- Does the Navy enforce protocols or data-sharing agreements to prevent redundant animal testing on the same research questions across different laboratories or research groups?
- How many total studies are planned under this overarching research initiative, and what is the projected timeline for concluding all associated animal testing?
- What specific military or operational necessity required the use of live pigs rather than advanced computer or lab-based modeling for this research?
- What total amount of federal funding from the Department of Defense has been allocated to institutions for animal testing over the past five fiscal years?
- What specific steps are being taken by the Navy to transition toward non-animal methods?

¹ [National Institute of Environmental Health Sciences – Alternatives to Animal Testing.](#)

² [Harvard Medical School – Alternatives to Animal Research](#)

³ ["Isobaric counterdiffusion of carbon tetrafluoride breathing gas to prevent severe decompression sickness," *Proceedings of the National Academy of Sciences \(PNAS\)*, doi: 10.1073/pnas.2600125123.](#)

Our national security and the health of our service members are paramount, but we must achieve these goals ethically and responsibly. We look forward to your prompt response and to working together to ensure taxpayer funds support both naval innovation and high standards of animal welfare.

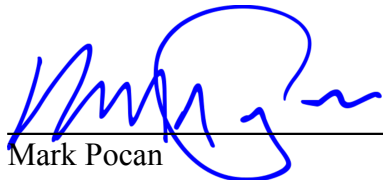
Sincerely,



Veronica Escobar
Member of Congress



Eleanor Holmes Norton
Member of Congress



Mark Pocan
Member of Congress



Dina Titus
Member of Congress