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**UAMS Researchers Find Ground Beef Packs
Bigger Muscle-Building Punch than Soy-Based Alternative**

LITTLE ROCK — When it comes to building muscle, not all proteins are created equal.

New research from the University of Arkansas for Medical Sciences (UAMS) reveals that 100% ground beef packs a bigger punch for muscle protein synthesis than a soy-based counterpart. In fact, the study suggests that a person would need double the amount of soy-based protein to achieve the same results.

[Published in the *American Journal of Clinical Nutrition*](#), the study examined the anabolic response — how the body builds muscle — after consuming a 4-ounce beef patty versus one or two 4-ounce patties of a soy-based product. The results? Just one serving of beef did the job, while two servings of the soy-based alternative were necessary to see the same muscle-building benefits.

For those counting calories, the difference is striking: Beef delivered these results with fewer calories — 279 compared to 462.

“While both beef and soy are considered ‘complete’ proteins, the amino acids in beef are simply more available for the muscle to use efficiently,” said Robert Wolfe, Ph.D., a UAMS professor of geriatrics and the study’s principal investigator. “This efficiency can be important since the body is in a constant state of protein turnover to rebuild and repair proteins for functional health, especially when combined with physical activity and as part of healthy development and aging.”

The study is part of a growing body of evidence highlighting the importance of quality protein for muscle health, especially as we age. Muscle mass plays a key role in maintaining strength, balance and the ability to age independently. For older adults, optimizing muscle health through diet and exercise can make a big difference in quality of life.

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“Protein quality matters as much as quantity,” Wolfe said. “This research underscores the fact that foods like nutrient-rich ground beef can offer more muscle-building benefits, and that’s critical as people make dietary choices, especially when balancing calorie intake.”

The UAMS study was conducted on 24 healthy adults between the ages of 18 and 40, who were randomly assigned to consume one of the three test meals — one 4-ounce 100% ground beef patty (80% lean, 20% fat); one 4-ounce Impossible™ patty; or two 4-ounce Impossible™ patties.

Other researchers on the study included UAMS researchers David Church, Ph.D.; Shiloah Kviatkovsky, Ph.D.; Arny Ferrando, Ph.D.; Gohar Azhar, M.D.; and UAMS postdoctoral research fellow Joseph J Matthews and Katie Hirsch, Ph.D., from the Department of Exercise Science, Arnold School of Public Health, University of South Carolina.

The research, funded by the National Cattlemen’s Beef Association, a contractor to the Beef Checkoff, was designed to better understand how animal- and plant-based proteins compare in promoting muscle protein synthesis, the process of repairing and rebuilding muscle fibers. The association had no role in the design, execution, interpretation or writing of the study.

UAMS is the state’s only health sciences university, with colleges of Medicine, Nursing, Pharmacy, Health Professions and Public Health; a graduate school; a hospital; a main campus in Little Rock; a Northwest Arkansas regional campus in Fayetteville; a statewide network of regional campuses; and eight institutes: the Winthrop P. Rockefeller Cancer Institute, Jackson T. Stephens Spine & Neurosciences Institute, Harvey & Bernice Jones Eye Institute, Psychiatric Research Institute, Donald W. Reynolds Institute on Aging, Translational Research Institute, Institute for Digital Health & Innovation and the Institute for Community Health Innovation. UAMS includes UAMS Health, a statewide health system that encompasses all of UAMS’ clinical enterprise. UAMS is the only adult Level 1 trauma center in the state. UAMS has 3,485 students, 915 medical residents and fellows, and seven dental residents. It is the state’s largest public employer with more than 11,000 employees, including 1,200 physicians who provide care to patients at UAMS, its regional campuses, Arkansas Children’s, the VA Medical Center and Baptist Health. Visit www.uams.edu or www.uamshealth.com. Find us on [Facebook](#), [X \(formerly Twitter\)](#), [YouTube](#) or [Instagram](#).

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