In Memoriam: Gertrude (Trudy) Maria Forte, PhD

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Trudy M. Forte, a leader in the field of lipoprotein research, died in June 2021 (Fig. 1). Trudy was a Senior Scientist at Lawrence Berkeley National Laboratory and a Scientist at Children's Hospital Oakland Research Institute (CHORI). She grew up on the farm where her father worked in Wayne, Pennsylvania, a pastoral experience that shaped her in many ways and fostered her love of biologic science. After graduating magna cum laude from Immaculata College, she went on to receive a PhD in biology from the University of Pennsylvania and did postdoctoral fellowships in biochemistry at the University of Southern California and biophysics at the University of California, Berkeley. In 1969, she took a position at Lawrence Berkeley National Laboratory, where she joined the lipoprotein research group at Donner Lab founded by John Gofman, a pioneer of this field. There, she applied her skills to perfecting electron microscopic techniques for determining structural features of lipoprotein particles. Her seminal accomplishments with this methodology included the use of model systems, in collaboration with Alex Nichols, to demonstrate the metabolic transformation of nascent discoidal HDL to mature spherical particles (Fig. 2). Trudy's interest in HDL structure and function led to a series of studies investigating the role of the apolipoprotein A-I primary sequence in HDL assembly and function, most notably with regard to recruitment of membrane cholesterol and interactions with the antiatherogenic enzymes lecithin:cholesterol acyltransferase and paraoxonase. This work formed one of the main pillars of an NIH Program Project grant based at Donner Lab for many years. Subsequently, together with Robert Ryan at CHORI, Trudy investigated structure-function relationships of the recently discovered apolipoprotein apoA-V that bear on its key involvement in triglyceride metabolism and atherogenesis. In 2004, Trudy moved to CHORI, where, with Dr Ryan, she continued her studies of apoA-V and launched a productive new research direction aimed at developing and testing lipid nanoparticles for drug delivery.

Trudy's professional contributions went well beyond her research accomplishments. Notably, she served as Editor in Chief of this journal and was a long-time member of the journal's advisory board as well as a member of the editorial board of *Arteriosclerosis and Vascular Biology*. She had a number of leadership roles in the Council on Arteriosclerosis of the American Heart Association, including Council Chair, and was the founder and first chair of the Council's annual spring meeting. Her scientific and organizational skills were also recognized by her appointment to the Executive Committee of the International Atherosclerosis Society and her selection as chair of the advisory board of the Deuel Conference on Lipids.

Fig. 1. Gertrude (Trudy) M. Forte, PhD. February 25, 1937 to June 9, 2021.

Those of us who worked with Trudy had the benefit of experiencing her warmth, collegiality, and wise counsel. She was strongly committed to training students and research fellows, both in her own lab and on a broader scale with an NIH training grant that she headed for many years. Trudy was particularly

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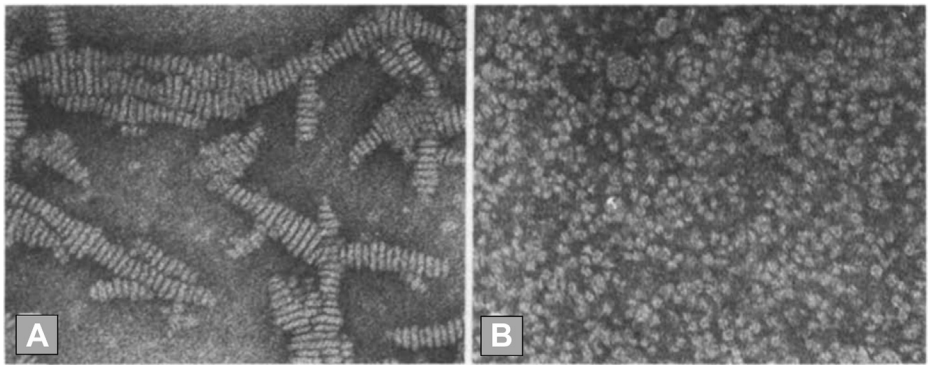

Fig. 2. Negatively stained preparation of the density 1.063–1.21 g/ml fraction ultracentrifugally isolated from a sonified mixture of ApoA-I-lecithin-unesterified cholesterol before (A) and after (B) incubation with the plasma d > 1.21 g/ml fraction containing lecithin:cholesterol acyltransferase. Magnification, 212,000×. Adapted from Forte TM, *et al.* (1).

dedicated to promoting efforts on behalf of women and under-represented minorities in science. This was recognized by her appointment as chair of the Women and Minority Leadership Committee of the Arteriosclerosis Council and her designation as the first recipient of its Mentoring Award.

Trudy and John Forte, a professor of physiology at the University of California Berkeley, met in graduate school, and they were married for 51 years until his death in 2012. Their three children have expressed awe at the grace with which Trudy was able to balance managing her research program and caring for an active family life. A supporter of local performing arts and a music enthusiast, she enjoyed playing piano, singing with her church choir, and attending live performances. Trudy was passionate about nature and loved to hike and garden. She enjoyed escapes with her family to the Sea Ranch on the Northern California coast, where she hiked, foraged for mushrooms, and explored the tide pools. In recent years, she transformed her yard into a pollinator-enticing refuge, frequented by hummingbirds, butterflies, bees, finches, and local wildlife.

Trudy will be remembered by her colleagues and her family and friends as an accomplished scientist and mentor, an advocate of women in science, an active supporter of her community, an excellent cook, and an exceptional mother and grandmother.

REFERENCE

1. Forte, T. M., Nichols, A. V., Gong, E. L., Levy, R. I., and Lux, S. (1971) Electron microscopic study on reassembly of plasma high density apoprotein with various lipids. *Biochim. Biophys. Acta.* **248**, 381–386