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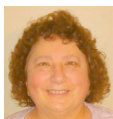
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Cover Illustration: The UFM1-activating enzyme, UBA5, possesses two isoforms: long and short. These isoforms are identical in their sequence except for an N-terminal extension, existing only in the long isoform. In this work, we solved the crystal structure of the long isoform, and deciphered the mechanism by which the N-terminal extension stimulates activation of UFM1.