

W0124

Moonlighting Proteins. Constance Jeffery, Biological Sciences, Univ. of Illinois at Chicago, MC567, 900 S. Ashland Ave., Chicago, IL 60607 USA.

An increasing number of proteins are being found that "moonlight", or have more than one function. (Moonlighting proteins do not include proteins that have multiple functions due to gene fusions, splice variants, or multiple proteolytic fragments.) Examples of moonlighting proteins have been found that are involved in cell growth and division, transmembrane transport, immunology, angiogenesis, drug resistance, DNA synthesis and repair, or protein, amino acid, or lipid metabolism. The variety of moonlighting proteins suggests moonlighting could be widespread and could provide one explanation of why the human genome encodes fewer proteins than predicted. The presence of moonlighting proteins adds to the difficulty of interpreting the human genome sequence and the results of proteomics experiments and in annotating protein sequence databases. (Supported by American Cancer Society and UIC Campus Research Board grants.)