Game of Proteins: An Interactive Board Game to Review the Secretory Pathway

Kati Tormanen*, Sarah Carmona*, and Debra Mauzy-Melitz
*co-first authors

University of California – Irvine, Department of Developmental and Cell Biology, Ayala School of Biological Sciences, 4228 McGaugh Hall, Irvine CA 92697 USA
(ktormane@uci.edu; carmonas@uci.edu; dmauzyme@uci.edu)

The secretory pathway is a vital component of cell biology. Many undergraduate biology courses cover the pathway in detail, yet students struggle to see how its components connect into the bigger picture of protein secretion. We have developed an interactive board game to illustrate and engage students in protein transport throughout the entire secretory pathway. This activity was originally developed for an introductory biology course in a small group discussion setting. In this game, students assume the role of a protein and answer questions to move through the pathway. Our questions range from protein movement and quality control to organelle function. The approximate time for this activity is 45 minutes, but can be adjusted for different settings and grade levels based on question difficulty. In this workshop, participants will have the opportunity to try the activity and learn how to administer it. Workshop participants will also be given a copy of the game board and a list of basic gameplay questions.

Keywords: secretory pathway in cells, game of proteins, cell biology

Mission, Review Process & Disclaimer

The Association for Biology Laboratory Education (ABLE) was founded in 1979 to promote information exchange among university and college educators actively concerned with teaching biology in a laboratory setting. The focus of ABLE is to improve the undergraduate biology laboratory experience by promoting the development and dissemination of interesting, innovative, and reliable laboratory exercises. For more information about ABLE, please visit http://www.ableweb.org/.

Papers published in Tested Studies for Laboratory Teaching: Peer-Reviewed Proceedings of the Conference of the Association for Biology Laboratory Education are evaluated and selected by a committee prior to presentation at the conference, peer-reviewed by participants at the conference, and edited by members of the ABLE Editorial Board.

Citing This Article

Compilation © 2018 by the Association for Biology Laboratory Education, ISBN 1-890444-17-0. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the copyright owner. ABLE strongly encourages individuals to use the exercises in this proceedings volume in their teaching program. If this exercise is used solely at one’s own institution with no intent for profit, it is excluded from the preceding copyright restriction, unless otherwise noted on the copyright notice of the individual chapter in this volume. Proper credit to this publication must be included in your laboratory outline for each use; a sample citation is given above.