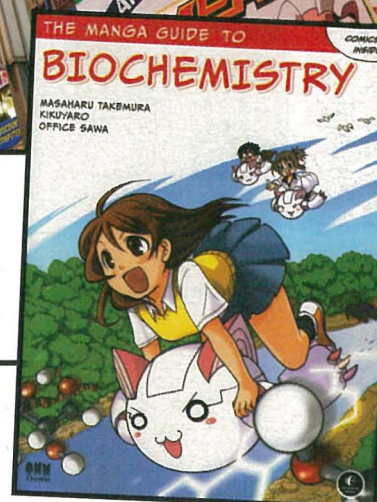


THE MANGA GUIDE TO BIOCHEMISTRY

Author: Masaharu Takemura
 Illustrator: Kikuyaro
 Producer: Office Sawa
 Publisher: No Starch Press
 Paperback: 272 pages
 English Release Date: November, 2011
 Print ISBN-13: 978-1-59327-276-0

MICHELLE MUSCAT



The Manga Guide to Biochemistry” offers a unique take on more complex biochemical processes, presenting these in diagrammatic and intuitive forms, that would especially appeal to audiences who enjoy manga, as well as those who would potentially consider taking up a career in biochemistry, or related subject. It also provides a unique take on biochemistry for undergraduate students reading for a degree in the subject area, who may choose to leisurely read this to complement their more traditional textbooks.

As a manga enthusiast, the author was quite intrigued when a manga was first released on the market in 2009, and translated to English in 2011, that brought together both the more traditional manga artwork as well as simplified concepts of this subject discipline, albeit it is less focused on the clinical aspect of biochemistry. “The Manga Guide to Biochemistry”¹ offers a new and more refreshing perspective to other traditional textbooks, which could serve as a simpler, more engaging introduction to the subject matter for certain targeted audiences²⁻⁶. Although the book opens with some concepts of high school biology and chemistry, it overall mainly details the fundamentals of biochemistry such as discussions on carbohydrates; protein synthesis; glycolysis; the tricarboxylic acid cycle; primary, secondary, tertiary and quaternary protein structures; enzyme inhibition as well as basic information on nucleic acids. Additionally, the book also delves into specific subjects which are even more relevant to the clinical biochemistry counterpart such as centrifugation, electrophoresis and chromatography amongst others. It goes as far as discussing the Michaelis-Menten equation and calculating V_{max} and K_m , which to the author’s knowledge, is an unprecedented move in

the manga field. Interestingly, structures of Vitamin D3 as well as progesterone and testosterone are also illustrated. Mention is also made of the metabolic syndrome in the introductory section. This manga is in fact written by a PhD graduate who comes from a nutritional science background, and was proofread by professors in the field.

The book recounts the story of a girl named Kumi and her friend Nemoto who is studying biochemistry at university. Kumi is introduced to a beautiful associate professor in biochemistry, Choko Kurosaka. Kumi is seen to soar through the journey of intellectual growth and discovery, looking with wonder at charts which illustrate chylomicrons, low density lipoprotein and high density lipoprotein; exploring the pathophysiological mechanism of atherosclerosis and, at the end of it all, being her cheerful self and adding mayonnaise to her pancakes! The role of leptin is also introduced to Kumi, which is of particular interest to her since it is shown that she really loves food but is concerned about gaining weight. Detailed discussions of amino acid structures are given enthusiastically by Kurosaka, with Kumi appearing initially quite stunned at that point. Different types of enzymes - oxidoreductases, transferases, hydrolases, lyases, isomerases and ligases - are illustrated on a board, and their functionality is explained to Kumi in a very intuitive, personified and diagrammatic way. The manga guide covers many other topics as well, and would be perfect for students who like manga and are interested in maybe taking up a career in biochemistry. ❖



This review is partially funded through the Endeavour Scholarship Scheme.

REFERENCES

1. Takemura M, Kikuyaro, Office Sawa (Firm). The manga guide to biochemistry. San Francisco, CA [Tokyo]: No Starch Press; Ohmsha; 2011.
2. Kishi Y, Matsumura T, Murishige N et al. Internet-based survey on medical manga in Japan. Health Commun. 2011;26(7):676-8.
3. Ishii A. Medical manga comes to America. CMAJ. 2009;180(5):542-3.
4. Green MJ. Teaching with comics: a course for fourth-year medical students. J Med Humanit. 2013;34(4):471-6.
5. Green MJ, Myers KR. Graphic medicine: use of comics in medical education and patient care. BMJ. 2010;340:c863.
6. Williams IC. Graphic medicine: comics as medical narrative. Med Humanit. 2012;38(1):21-7.

