“Here, put on this hair net,” says Andy McShea. He walks through the showroom of the Theo Chocolate factory, past heaps of chunky samples on gleaming slate. McShea is the Chief Operating Officer of the 4-year-old company, which he describes as the fastest-growing organic, fair-trade chocolate producer in the country. He’s known as Doc Choc, because he came to Theo Chocolate in 2007, after 7 years at the Seattle biotechnology company CombiMatrix and 3 years as a postdoctoral fellow at Fred Hutchinson Cancer Research Center. He’s now using his science background to make better—and healthier—chocolate.

McShea goes through a door to the factory, which is full of natural light, industrial noise, and a rich, biting chocolate smell. “That sharpness is the acetic acid,” he says, pushing buttons and flipping switches next to giant tanks of chocolate until it is quiet enough to talk. “Remind me to start all that back up again.” In the tanks, chocolate paste is conched, or gently ground for smoothness, and heated to over 70°C. Conching refines flavors and drives off the acetic acid produced during cocoa bean fermentation.

“Unfermented cocoa beans have a nasty, astringent taste,” explains McShea. To develop the chocolate taste, harvested beans undergo about a week of spontaneous fermentation, with yeast generating ethanol, lactobacilli producing lactic acid, and acetobacilli making acetic acid. McShea’s research and development for Theo Chocolate focuses on identifying and quantifying these and other compounds produced during fermentation and processing. “We’re developing high-tech methods to understand chocolate quality, and ultimately,
the chemistry of good food in general.” That’s the source of his motto: “better science through chocolate.”

Read more: Dr. Chocolate - The Scientist - Magazine of the Life Sciences
http://www.the-scientist.com/2010/6/1/23/1/#ixzz0pnsgkkJh