Among the most dangerous enemies we humans face are our own distant relatives, the microbes. No human being can long withstand their onslaught unprotected. We survive because the human body has a variety of effective defenses against this constant attack.

**INNATE IMMUNE SYSTEM**
This system includes, among other components, antimicrobial molecules and various phagocytes (cells that ingest and destroy pathogens). These cells, such as dendritic cells and macrophages, also activate an inflammatory response, secreting proteins called cytokines that trigger an influx of defensive cells from the blood. Among the recruits are more phagocytes—notably monocytes (which can mature into macrophages) and neutrophils.

**ADAPTIVE IMMUNE SYSTEM**
This system "stars" B cells and T cells. Activated B cells secrete antibody molecules that bind to antigens—specific components unique to a given invader—and destroy the invader directly or mark it for attack by others. T cells recognize antigens displayed on cells. Some T cells help to activate B cells and other T cells (not shown), other T cells directly attack infected cells. T and B cells spawn "memory" cells that promptly eliminate invaders encountered before.