

慈濟大學 106 學年度 碩博士班、博士學位學程暨碩士在職專班 招生考試命題紙

科目：英文科普文章測驗

共1頁

Manipulating the Microbiota

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In John Donne's famous words, no man is an island. Rather, all organisms, including humans, exist within a sea of microorganisms. A select few microbes cause great harm, but most are benign, some essential. In fact, many aspects of normal plant and animal development require benign microbial colonization and the establishment of specific relationships that have probably coevolved since the origins of life.

Perhaps not surprisingly, the human genes masterminding the selection of symbiotic microbes are largely those involved in immune regulation and barrier defense. In turn, the microbes that colonize mucosal tissues after birth play a pivotal role in shaping the development of the host immune system. Consequently, the effectiveness of early microbial colonization may have long-term effects on susceptibility to inflammatory diseases, such as allergy and autoimmunity.

Maintaining a healthy microbiota is no easy task. Diet, severe disease, and medications can all wreak havoc on the microbiota. Our current understanding of how this happens and what the long-term consequences might be very limited. Nevertheless, the list of commensal bacterial species with remarkable protective effects continues to grow, and the exploitation of the microbiota is increasingly big business. However, the probiotic industry currently faces huge challenges. These range from exaggerated health claims to the difficulties of developing rigorous testing protocols within existing regulatory frameworks. All the same, probiotic development shows great promise for rebuilding microbiotas and restoring health, certainly for some individuals.

Please read the article and answer questions:

- 1. Write down the information you catch from this article in your words.**
- 2. How can we manipulate the microbiota in our body? Any idea is welcome.**