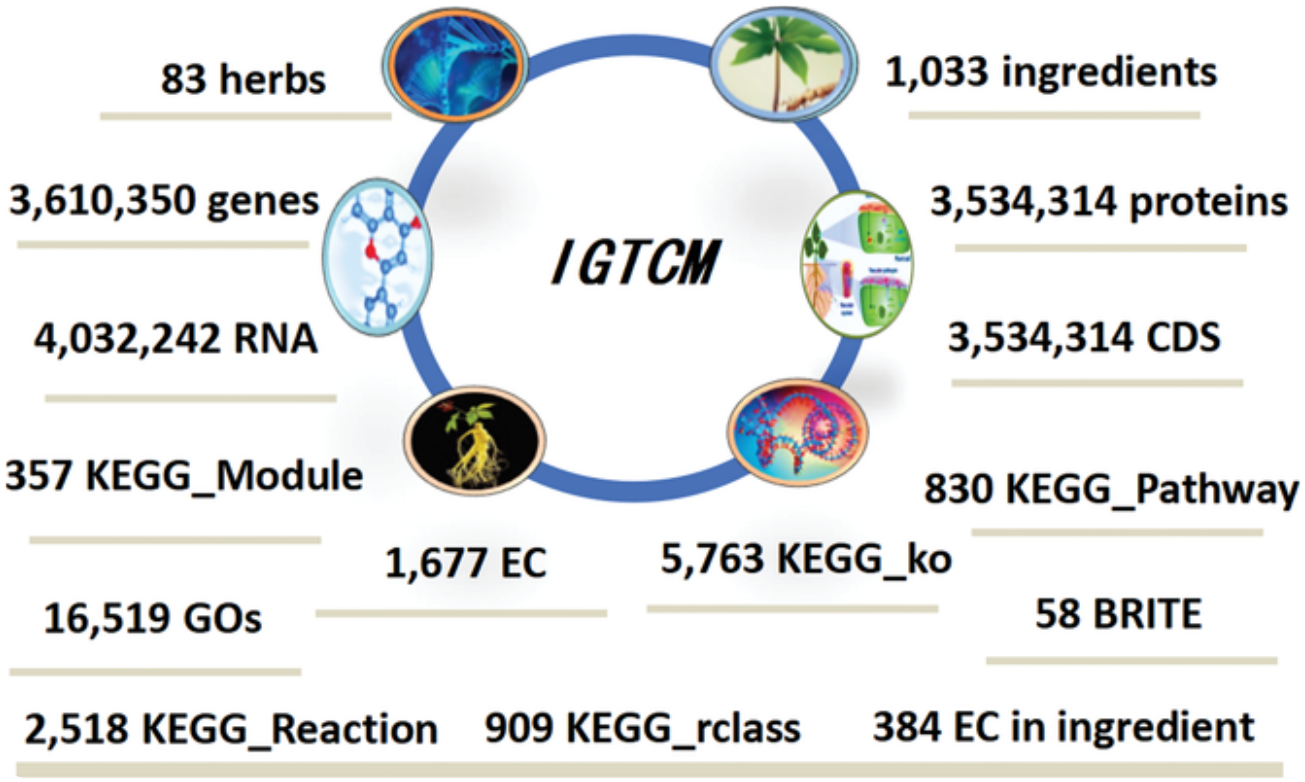
Science Societies

An Integrative Genome Database of Traditional Chinese Medicine Plants

September 11, 2023



Content profile of the Integrative Genome Database of Traditional Chinese Medicine (IGTCM) plants. Image by Yuan-Nong Ye.

Fully understanding traditional Chinese medicines (TCMs) is still challenging because of the extreme complexity of their chemical components and mechanisms of action. The TCM Plant Genome Project aimed to obtain genetic information, determine gene functions, discover regulatory networks of herbal species, and elucidate the molecular mechanisms involved in disease prevention and treatment, thereby accelerating the modernization of TCMs.

A team of researchers from Guizhou Medical University in China created an Integrative Genome Database of TGM plants (IGTCM, http://yeyn.group:96/). The database currently stores 83 medicinal plants and 14,711,220 records of annotated TCM-related herb genomes, including 3,610,350 genes, 3,534,314 proteins and corresponding coding sequences, and 4,032,242 RNAs as well as 1033 non-redundant component records for 68 herbs. To facilitate bioinformatics analysis of medicinal plant genomes and the effective mining of information, IGTCM also embedded BLAST, JBrowse, and other common genomic analysis tools. Content profile of the Integrative Genome Database of Traditional Chinese Medicine (IGTCM) plants. Image by Yuan-Nong Ye.

IGTCM not only provides an analytical platform for studying genomic structure and function of medicinal plants, but also has important practical significance and value for developing medicinal plant resources.

Adapted from Ye, Y.-N., Liang, D.-F., Yi, J.-H., Jin, S., & Zeng, Z. (2023). IGTCM: An integrative genome database of traditional Chinese medicine plants. *The Plant Genome*, *16*, e20317. https://doi.org/10.1002/tpg2.20317