Traditional Chinese medicine (TCM) has over 3000 years of history to treat diseases in China and has played a pivotal role in the Chinese health system. As a complex system involving multi-components, the conventional quality control mode based on one single marker fails to completely control the quality of TCM due to unclear active principles and lack of systematic analytical methods, which has become a bottleneck to hinder the healthy development of TCM industry and TCM globalization. Chinese government has been emphasizing the research and elaboration of TCM quality monographs and brought “TCM Standardization and Modernization” into the key strategic task of the new period to promote the development of TCM globalization. Based on the research goal of “TCM standards lead in the international standard-setting”, we proposed “scientificity and practability” as the basic principle, and “comprehensive research and simplified standard” as the guiding thought to construct the TCM quality standard which is in accordance with the TCM complex feature. TCM quality research can be divided into two stages: basic research and quality construction. We have firstly developed the systemic analytical methodology to clarify the active principles, which hindered the elaboration of scientific TCM standards. And then constructed the core factors for the elaboration of TCM quality standards, including preparation of reference standards, fingerprinting, multiple marker assay, etc. On the basis of above mentioned research, a holistic model for the TCM quality standard was established and successfully applied in Chinese Pharmacopoeia, United States Pharmacopoeia and Europe Pharmacopoeia for the TCM standards.