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A blue-tinted photograph of a plant with many small, light-colored flowers and buds. The text "Global Needs for Asian TM Pharmacopoeia" is overlaid in yellow.

Global Needs for Asian TM Pharmacopoeia

Why Traditional Medicine?

OUTLOOK | TRADITIONAL ASIAN MEDICINE



CONVERGENCE

Where West meets East

The concepts of Asia's traditional medicines might sound alien to Western ears, but some of them are starting to evolve to fit scientific investigation.

BY PENG TIAN

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For around 200 years, two very different systems of medicine have been used in Asia to cure diseases and keep people healthy. The local Asian one is based on traditional Chinese medicine (TCM) — herbal mixtures developed through observation and experience accumulated over thousands of years, but with unknown mechanisms of action. On the other hand, modern medicine, imported from the West, consists of chemically purified compounds that have been discovered through scientific investigation and tested in controlled clinical trials. They differ in the composition of their medicines, the process of diagnosis, methods of proving a treatment effective, and even in their concept of 'health' (see 'Made in China', page 382).

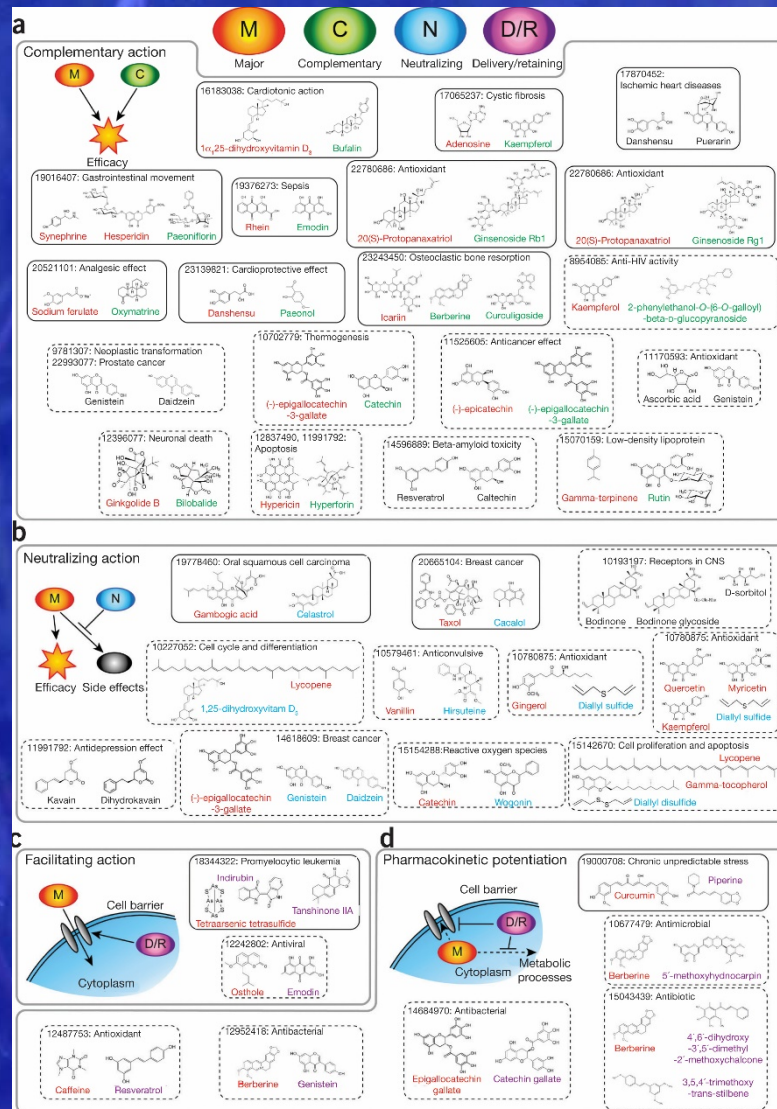
Are these differences irreconcilable? Or, if TCM is modernized to the point where it can make scientifically valid claims, might it offer new perspectives that can benefit modern medicine — including clues on how to tackle the least tractable diseases and conditions? And likewise, can new perspectives being advanced in the West, such as systems biology, help lay a scientific foundation for TCM?

SPIRITUALITY IN MEDICINE

Although modern medicine has its roots in herbalism and in ancient Greek traditions that share many similarities with TCM, the practice of medicine was transformed by the Enlightenment and the consequent revolution in science and technology. Since the late eighteenth century, Western-style medicine has incorporated knowledge of anatomy, physiology, chemistry and biology, and its methods are evidence-based. TCM, although it is starting to take on these attributes, still relies heavily on ancient records and traditional practices.

TCM includes many tenets derived from Taoism, Confucianism and ancient Indian philosophies that describe the natural world, life and the human body. Concepts include yin and yang, which represent opposing yet complementary essences of nature; wuxing, which covers the five basic elements of the universe (wood, fire, earth, metal and water); qi or energy; and zhai, the blood. This terminology purports to be concerned with disease and human health, but cannot be defined in terms of biochemical or biological facts — or indeed measured. And even the literal translation of these tenets into other languages is misleading.

The modern medical and scientific communities in China and elsewhere are highly critical of such mystical concepts, which are consequently becoming marginalized in China. "The medical practice of TCM is a process of trial and error, and concerns the understanding and control of herbs from the *Chinese Materia Medica*," says Daqing Zhang, director of the Center for History of Medicine at Peking University in Beijing. "The philosophical theories were called inwards to provide the explanatory framework for the practices, and are used to win the patients' trust." But thousands of years of history is a long time



Kim. A systems approach to traditional oriental medicine. Nature Biotechnology, 2015

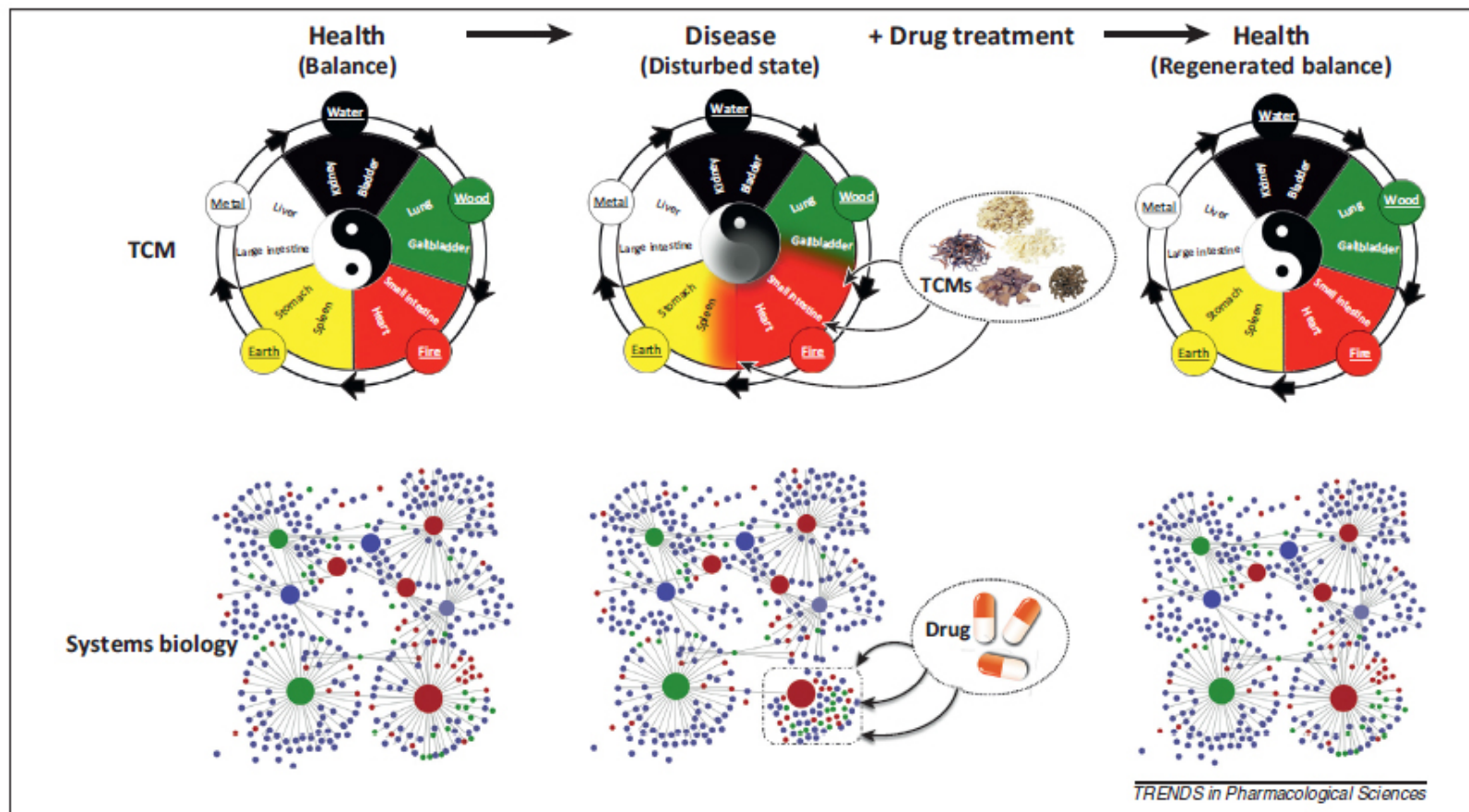


Figure 1. Similarity between TCM theory and systems biology. Both TCM theory and systems biology consider a healthy organism as a balanced system with complicated connections between its components. In TCM theory, the balance is kept by interaction among *Wuxing* (metal, water, wood, fire, earth) and different organs/*Zang* (liver, large intestine, stomach, spleen, heart, small intestine, lung, gall bladder, kidney, bladder). In systems biology, the balance is kept by networks at different levels among genes, proteins, cells, organs, and tissues. If the balance is disturbed, the organism will exhibit diseases. However, with the help of drug treatment, the system in TCM theory and the system in systems biology have the ability to regenerate the balance.

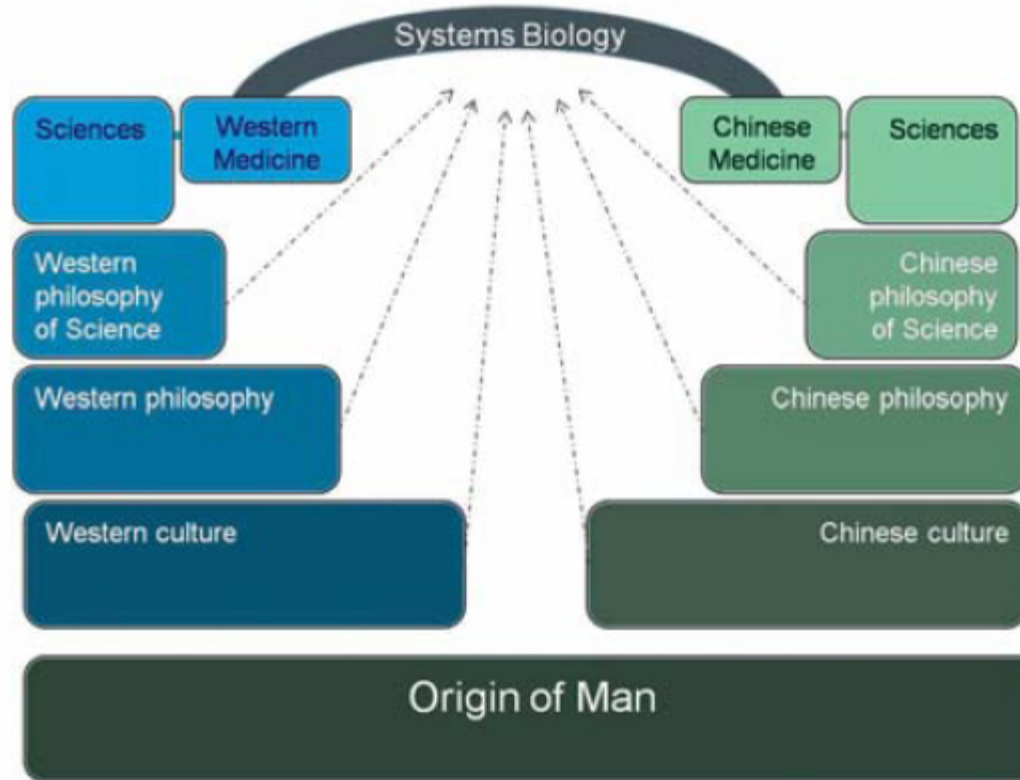


Fig. 1 Systems biology as a bridge between Chinese and Western medicine. As migration moved populations apart in space and time, the Western and Chinese cultures evolve separately, giving rise to specific cultural philosophies. These philosophies gave rise to philosophies of science, which led to types of science. This evolution allowed different types of science to exist alongside one another [2].

Greef J. Systems biology-based diagnostic principles as pillars of the bridge between Chinese and Western medicine. *Planta Med.* 2010

Why Pharmacopoeia?



THE BIG PUSH FOR CHINESE MEDICINE

For the first time, the World Health Organization will recognize traditional medicine in its influential global medical compendium.

BY DAVID CYRANSKI

Choi Seung-hoon thought he had an impossible assignment. On a grey autumn day in Beijing in 2004, he embarked on a marathon effort to get a couple of dozen representatives from Asian nations to boil down thousands of years of knowledge about traditional Chinese medicine into one tidy classification system.

Because practices vary greatly by region, the

doctors spent endless hours in meetings that dragged over years, debating the correct location of acupuncture points and less commonly known concepts such as 'triple energizer meridian' syndrome. There were numerous skirmishes between China, Japan, South Korea and other countries as they vied to get their favoured version of traditional Chinese medicine (TCM) included in the catalogue. "Each country was

A practitioner of traditional Chinese medicine treats a patient in Zhejiang province in China.

Natural Products Tsunami

- Phytotherapy products
- Traditional remedies
- Complementary natural sources and nutraceuticals
- Crude drugs
- Adulteration or unauthorized natural products

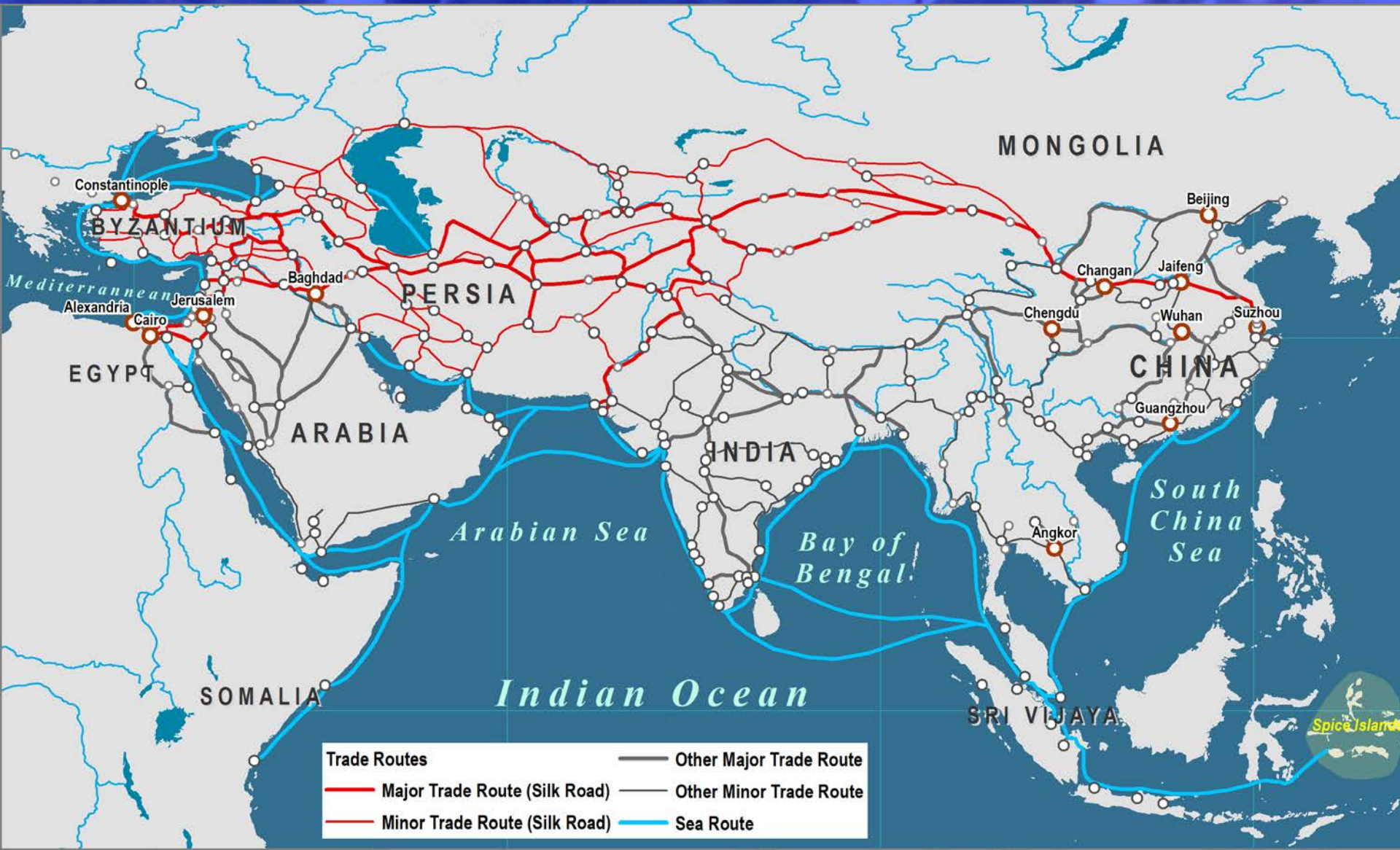
Why Asia?



Why Asia?

- The site of many civilizations and TMs
- 4.5 billion people (60% of the world's population)
- 43 countries
- Resource for supplying global Natural Products
- Historical routs like silk road, spice road

Trade Routes





WHO Global Atlas
of Traditional, Complementary
and Alternative Medicine

MAP VOLUME

C.K. Ong | G. Bodeker | C. Grundy | G. Burford | K. Shein

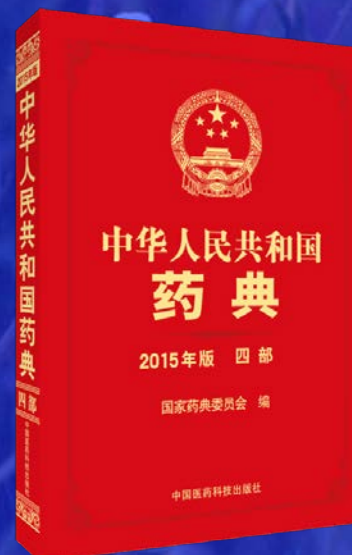
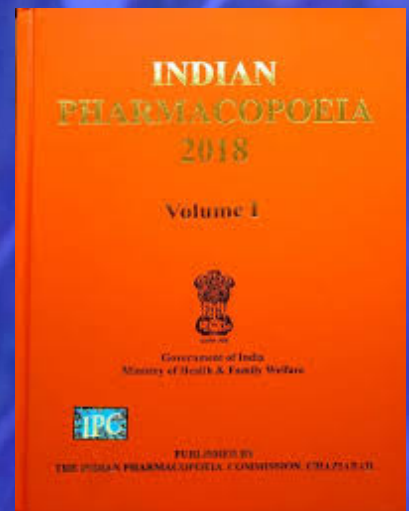
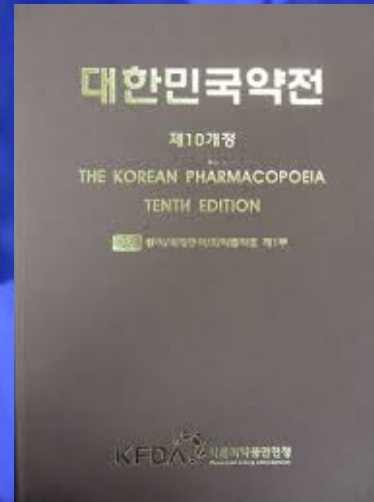
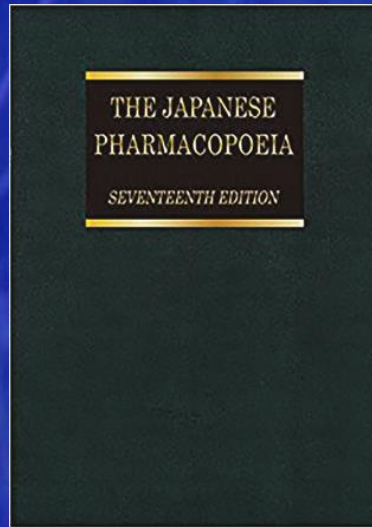


World Health Organization
Centre for Health Development
Kobe, Japan

Asian Medicinal Plants



Asian Pharmacopias



Multimedia Asian Pharmacopeia

- International/ local languages
- Update QC items
- Available for low in come countries

United together for global health



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