

# SOURCING HERBAL EXTRACTS IN CHINA

This is a short-term field study of the process of searching for domestic Chinese suppliers of the herbal extract Icariin, needed for the purpose of developing new medicines. The study was done from within China, in Chinese, and it endeavored to locate an unadulterated high-quality product from reputable distributors.

**From Inside China  
a Search for  
Herbal Extract  
Suppliers**

Quite gracefully, multiple conditions arose and formed into the unique opportunity that I could be of service to Blue Marble University beyond that of a normal student of the university's Chinese language degree program, the *China Program*. The initial condition was that Blue Marble University (BMU) had graduate science students in need of an herbal extract for new medicine R&D. Accompanying that condition was the fact that the vast majority of herbal extracts sold around the world were sourced from China. Another condition, unfortunately, was that buying from China inspired high levels of caution and discretion in order to avoid becoming part of the history of buying disreputable, tainted, low-quality and fake products that have hailed from the country. Fortunately, there was a final condition involved, that being I have been living in China for over 15 years, have many domestic contacts, know the language and the culture and have technology at my fingertips.

In this light, BMU offered me the choice to explore Chinese language and culture through the search for a Chinese distributor of the desired herbal extract and write a field study to boot. I eventually agreed to this field study, a study specifically into the search for the herbal extract *Icariin*. This extract comes from the common Chinese herb Epimedium, most renowned for its beneficial effects on the male reproductive system, or it's "Yang Strengthening" properties, according to Traditional Chinese Medicine (TCM). The field study found below describes the roughly five-week long process I underwent sourcing Icariin in the vast industry of Chinese herbs and herbal extracts within China.

For myself personally, the field study interested me for two main reasons. One being that I personally respect very much the motivation, vision and immense effort of Dr. Walter P. Drake, his partners and colleagues, in the creation of the online university that is BMU. This innovative virtual university is a most fortunate, beneficial and necessary solution to the hindering ails of higher education, and those specific to the USA. If I could aid this effort in some way, and aid in the creation of useful medicine at the same time, well, I would be very willing.

The other reason for my interest in this field study is one of building bridges. In China over the last 16 years I have been a student of and/or privy to many different styles of philosophy, therapeutic medicine, education and business. At the same time, I have also been a teacher of many those styles in one form or another. This naturally has predisposed me to building bridges between different systems, thinking and ways of doing things. Whether it be bridges between eastern and western culture; between Chinese Daoism, Confucianism and Chinese Buddhism; traditional Chinese culture and modern Chinese culture; Traditional Chinese Medicine and western medicine; helping different sides of humanity connect to and respectfully understand the other has been an implicit hallmark of my career. With this field study, and the partnership it could create between BMU and a domestic Chinese enterprise, I hoped that I could in some part aid in the building of another bridge between east and west, between quality institutions, that is replete respect and integrity. I am confident in said quality and integrity of BMU, and confident in finding multiple Chinese companies possessing the same.

I am currently based in the city of Xiamen, Fujian province in the southeast of China, right across the Taiwan Strait from Taiwan. It is from here that I have made the effort to find local and national distributors of Epimedium, and specifically the purest extract of Epimedium available. Within the body of the study below I am going to give a run-down of the activities that took place in chronological order. The chronology unfolded within the time framework of my field study assignment, February 12, 2018-March 25, 2018. The described run-down of activities will be accompanied by comments, including some personal analysis and interpretation. Following will be recommendations and a conclusion. At the end of the paper will be the appendixes including the list of proposed distributors, copies of Certificate of Analysis (COA) certificates and other materials sent to me by said distributors, as well as a copy of the initial letter of inquiry I sent to my personal contacts in Chinese.

## Sourcing Icariin in China—A Run Down of the Process

### Uncle 6

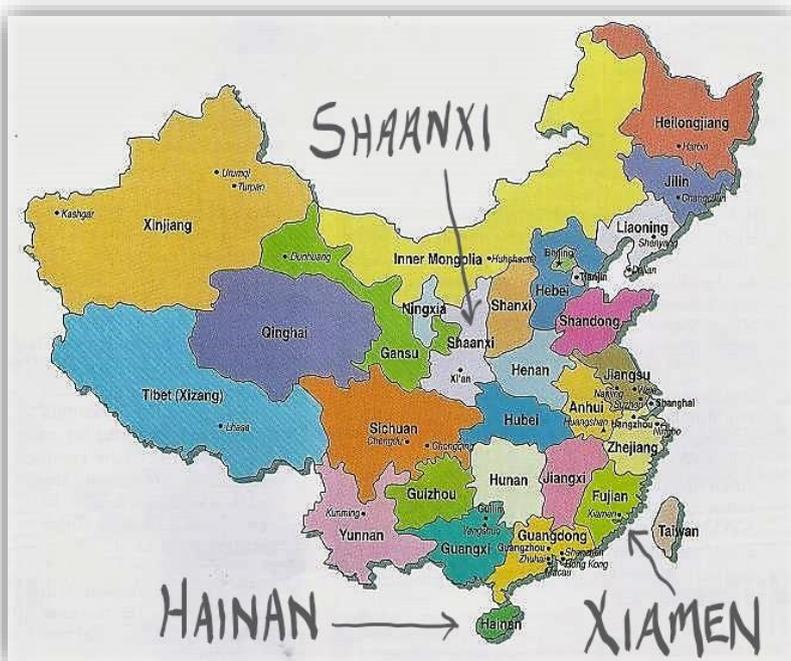


Figure 1 Map of China. The city of Xiamen is where I'm currently living, Hainan province is home to Uncle 6 and Shaanxi province is where most distributors of Icariin are based.

My initial acceptance to undertake the field study occurred while I was on the southern island province of Hainan. This is where I was celebrating the Chinese New Year with my wife and her family, in the city of Haikou, capital of the province known domestically as the “Hawaii of China.”

It was here that I was able to meet with my wife’s uncle, Uncle 6, and his wife, both of whom are very active veterans of the local business world. My uncle-in-law whipped out an idea right after I relayed to him my search for Icariin. He suggested that he could very well just invest in extraction equipment and do it himself, being that he has done business in herbs before and has interest and experience, professionally and personally. He backed off the idea once I told him that small amounts would

be needed at first only for research. He then offered to look into distributors but as of March 23, 2018, he hasn’t connected me with anyone yet.

One reason Uncle 6 may have not turned up anything is that the plant source of Icariin, Epimedium, is not as common to the south of China. There is actually a geographical concentration of distributors in the north of the country, particularly in the province of Shaanxi. Here you’ll find the city of Xian where most distributors of the extract are headquartered. Near Xian is the Qiling Mountain range, a prime growing area of Epimedium. Geographically, this is quite far from Hainan, and even from where I am in Xiamen. Regardless, as BMU’s Germaine Wilson pointed out in an email he sent in reply to mine about my exchange with Uncle 6, Uncle 6 could be a future partner, extractor and distributor when and if BMU needs larger amounts of the extract.

### The Reach Out

Due to the festivities of the Chinese New Year, which fell on February 16, 2018, I waited a week or so after it before making my big reach out to my TCM contacts. Generally speaking, the entire Chinese New Year traditionally lasts about 15 days. It starts the night before the first day of the first month of the lunar year until the 15<sup>th</sup> day of first lunar month, according to the Chinese lunar calendar. Where usually you could find bustling activity on any other day of the year, this time of year the streets, of cities especially, become eerily quiet. I feel it all used to last longer, but with increased modernization and urbanization, many shops and companies start getting back to work only a few days after the new year and far ahead of the 15<sup>th</sup> day. So, this allowed me to reach out to my contacts bit earlier.

This initial reach out was done via the increasingly ubiquitous social networking app *Wechat*. Originally, Wechat was almost solely a social networking platform, but has grown enormously due in large part to its mobile payment platform. It is almost single-handedly pulling China headlong toward a cashless society

as increasing amounts of monetary transactions, from brand name stores to old lady's selling freshly picked produce on the street, utilize the platform. There is a plethora of other things you can use the app for, including booking a taxi or flight, as well as bypass handing over a business card in favor of adding a contact to the app. This last function is important as in most interactions, especially business-oriented, an exchange of Wechat contacts is extremely common. Downloading this app is thus useful for anyone who might be contacting mainland Chinese, such as those from BMU who may need to reach out to the distributors I will list below. Wechat in English for Android and Iphone is readily available.

The initial response to my inquiry with my contacts was not overwhelming and came from one seasoned and two younger TCM doctors. The first response was from Dr. Zhou, a younger practitioner practicing in Guangdong province in the city of Shenzhen. He responded by echoing BMU's Dr. Drake and his deep discretion toward purchasing from China. Dr. Zhou voiced his opinion that the likelihood of attaining any extract without added contaminants was low, though he himself has no intimate knowledge and experience with the industry. His suggestion was to do the extraction on one's own. He did though reach out himself to the owner of a TCM clinic he worked at before, though no possible distributor of the extract was offered as the TCM clinic owner has been, and is, only involved with whole herbs. Dr. Zhou mentioned that this owner also had a good source of wild Epimedium, which is a possible source for any venture BMU, might undertake into directly doing Icariin extraction.

The second response was also from a younger practitioner, Dr. Xiao, practicing in the city of Nanning in Guangxi province. He responded with his own reach out to a TCM teacher-practitioner. Her response at first was in response to my initial request for 100% pure Icariin. The problem of purity, she iterated, was less a problem of the addition of contaminants and more a problem of the technology and the highly intensive process of extraction needed for extractions of high purity. After research on Alibaba she became more confident in the conclusion that purity was a technological problem seeing that the highest purity of Icariin offered on Alibaba never rose above 98%. This was further confirmed by her ex-classmates who happened to be involved in the extraction industry and who she questioned about this issue. They told her that currently there are not higher levels of purity of Icariin being produced and suggested that if desired it should be done on one's own.

In my initial inquiry with my personal contacts, via a letter that can be seen in Appendix 3 below, I voiced the concern Dr. Drake had about deleterious production and business practices surrounding Chinese herbs and supplements being sold worldwide. Those concerns echoed mine and my experiences as well as those of many of the people I have known here in China over the years. Within my letter I concentrated this issue on the matter of morality and virtue, hallmarks of traditional Chinese culture and TCM. Dr. Xiao's contact took exception to this and maintained that those involved in the development and use of extraction technology, as well as distributors on Alibaba, were very trustworthy. Fortunately, as far as the breadth of this study is concerned, she is not greatly wrong, yet not completely correct, as I will show below only a couple examples of questionable business practice on Alibaba. Those examples are still enough to warrant continued caution when building connections toward eventual partnership and purchasing.

She did though offer an interesting point of view on the herbal extraction industry. She voiced that it is the hope of TCM practitioners that large amounts of raw plant materials won't be used for the purpose of small amounts of extracted active components. This she said is causing great waste of materials and adding huge stress to distributors.



Figure 2 Picture of Mr. Tong, to my left, with his associates at Nanjing Tong Ren Tang TCM clinic in Xiamen, China.

Dr. Zhang, native to Taiwan, and a TCM practitioner at the Huayi Guan TCM Clinic in the city of Xiamen, relayed my inquiry to a contact of hers, Mr. Tong. Mr. Tong is part owner of the Nanjing Tong Ren Tang Pharmacy and TCM clinic in Xiamen. After contacting him through Wechat I went to his clinic and sat down to tea with him, his partners and a couple of his TCM doctors on staff. It was a nice connection for myself personally as Mr. Tong and I share Buddhist vegetarian lifestyles. Following a look at Epimedium leaves in bulk, crumbled and ready for addition to herbal decoctions, he said he would look into a distributor of the extract. My meeting here was in early March and not until March 22<sup>nd</sup> did Mr. Tong connect me to Ms. Tang of Xian Taikomed Medical Tech Co. Ltd, of whom

I'll list in Appendix 1. The two are connected by association with a chamber of commerce related to their businesses.

Further response to this initial reach out took place much later in the chronology and will be described below. Up until the end of this assignment the rest of my contacts provided no possible Epimedium extract distributor, which includes said further response. That response instead relates to the nature of TCM and its direction of development in contrast to the nature of modern western medicine and mainstream modern scientific research. Again, that response will be described later.

One reason for my contacts' lack of offering a possible distributor is that they are almost exclusively involved with the practice of whole herbs within herbal decoctions. They are not part of the study, research and use of extracted and highly refined components in their herbal decoctions. If they are even involved with the buying and selling of herbs at all, it is in the whole bulk form of dried herbal plants, seeds, flowers etc.

## 1688

Even if my contacts had turned up a distributor or two I still needed to explore online. The first place I did that was on the domestic Chinese Alibaba app platform, known by the name 1688. The Chinese traditionally and in modern times have used numbers and their pronunciation to represent other things. An example is the name 1688. The pronunciation of "1" is the same as the pronunciation of "to want," while "6," though not the same pronunciation as "success" always implies that meaning. "8" is similar pronunciation in the word for "to make money." So, 1688 comes out literally as "want success and make a fortune," or in the Chinese romanization pinyin "yao liu fa fa."

On 1688, I contacted a total of 20 Chinese domestic distributors who advertised in the search results that they had Epimedium extract in 98% purity (which I'll call Icariin 98 from here on out). My line of questioning and inquiry with each distributor was basically:

- 1) Whether or not they manufacture or distribute Icariin 98.
- 2) Whether or not they have an Icariin 98 COA.
- 3) Whether or not they have international shipping and customer service abilities e.g. English language abilities
- 4) Inquiry into the amounts they can ship and the price.
- 5) Some information about myself and my purpose.

By March 25, 2018 I came up with only five that I feel comfortable with suggesting as possible distributors. In my estimation these five had a normal to high degree of polite, professional and prompt communication

and service, possessed English speaking, or at least English reading and writing, capabilities, international business and shipping capabilities, and legitimate business practices. They are listed in Appendix 1.

The responses of course varied and brought insight into the state of 1688. Two didn't have international shipping capability. One communicated very unclearly and off topic. A few of the distributors simply did not respond. Although two of the distributor's 1688 mini sites advertised sale of Icaria 98, after communication on the in-app chat service it was found out that they didn't sell it. One of those showed me a COA of Icaria 60. When asked for a COA of Icaria 98 three times, the non-professional response was that the person responsible was not available. No follow-up on their part occurred again. When exploring what appeared to be a large herbal extract chamber of commerce website, I came across three enterprises that I then found on 1688. Not one of them responded to inquiries. All of the above were geographically quite far from Xiamen, so in trying to find local distributors I finally found one, though communication was sporadic, incomplete and eventually non-existent on their part. Possibly relaying to them that in the near term only small amounts of Icaria 98 were needed turned them off? Who knows. Other possibilities as to what some of these distributors are actually up to also came to light.

Within the 1688 app if a distributor offers to connect on another social networking platform, for example, Wechat, then 1688 has an automated message that shows up, as seen in figure 3. The gist of the message is that to avoid scams don't use other communication services because 1688 will then have no evidence from which to investigate if a scam arises. This notification appeared when talking with a distributor out of Guangzhou, Guangdong province. This province was one of the

distributors I was hoping to connect with that was "relatively" near my city of Xiamen. This distributor used a "\*" symbol between the two Chinese characters of Wechat in Chinese, 微信. This was done to avoid detection by 1688. They did not avoid detection this time though. Due to an already prior experience with another distributor I immediately cut off communication.

That previous experience was with a distributor out of Hubei province. Communication started with them on 1688 quite normally with their communication in the white boxes in the screenshot of the conversation in figure 4. They told me first "the standard [of Epimedium] is 98% and above." Then they ask me to add them to my Wechat contacts via their phone number as they need to leave for a while and chatting via mobile phone is best now. As can be seen they used an "@" symbol between the two Chinese characters that make up the name of "Wechat," again to avoid detection by 1688, upon which I respond finally with "ok."



Figure 4 Screenshot of the chat between the Hubei distributor and myself on the 1688 app.



Figure 3 Note the "\*" symbol between the two Chinese characters of Wechat's Chinese name, 微信. 1688's warning message is in the grey box below the last white message box.

The conversation unfolds as can be seen in Figure 5 with their communication in the white boxes and mine in the green. They tell me many schools have previously bought their Icaria product (on 1688 I had already mentioned my representing a university). They then mention amounts they have sold. I then ask if any international schools had bought from them and they respond saying schools from Hong Kong, Taiwan and Korea. I then request more materials including another COA and



Figure 5 Screenshot of continuing conversation with Hubei distributor on Wechat.

the names of the international schools they have sold to. He immediately says “never mind.” I tell him that the buyers are very cautious and this isn’t strange. He never responded again, which made the whole thing smell even fishier to say the least.

### Continuing Effort to Find Local Distributors

I of course wanted to take advantage of actually being in China and to actually meet face to face with someone. Ideally a visit to a lab, factory or office building would be best. That proved to be more of a challenge than first thought. The difficulty of finding distributors of Icariin 98 in the city of Xiamen, or in its province of Fujian, again seems to be a product of where the plant Epimedium naturally grows. At any rate finding a local distributor was cumbersome.

Initially only two possible Xiamen distributors were found, one on 1688, and one through a basic search on the Chinese search engine Baidu. The 1688 distributor was only selling Icariin 10%. Inquiry with them was sporadic, unclear and eventually they just stopped responding. The company found through the online search, whose contact information was found on a third-party website, was contacted via phone. The man who picked up, answering as if receiving a non-business related private phone call, told me not to contact that “person” again, saying that it was

over. He seemed to have known the original person using that phone number and known about their herbal extract business venture. Admittedly, I found that phone number on a suspect third party site listing contact information of the no longer existent company.

Finally, the idea came to me to look on the 1688 international site, or Alibaba.com (Alibaba). As I had wanted to take advantage of my placement in China, language abilities and cultural understanding I had been focusing primarily on the domestic distributors that probably couldn’t be found on Alibaba. This led to an erroneous neglect of the huge online business platform. Though I did inquire with distributors found on Alibaba there are many other distributors that can be contacted. I believe that my report here will aid whoever at BMU who might need to inquire further with other distributors on Alibaba to do so with less risk of falling into a scam or buying an inferior low-quality product. With that in mind, personally I contacted only one distributor outside of my base area of Xiamen that I saw on the Alibaba site. I actually wanted to experiment and see if this company had a presence domestically and could be contacted on the 1688 app. Turned out they were on the domestic 1688 app too, so I continued correspondence with them there, details of this company, Day Natural, are again below.

My search on Alibaba for Xiamen-area distributors of Icariin 98 turned up two, and I was only able to connect with one of them. Good news was that my local search produced good correspondence with this one company, Xiamen Sinoway. In the end it was the most promising out of all the other distributors I will list below as in addition to meeting other basic requirements its representatives were comparatively the most professional, courteous and thorough. Starting on their Alibaba page I contacted them via phone, that led to an email correspondence that eventually connected me to Dr. Annette Wang who is in charge of herbal extract products. Correspondence started in Chinese via email, then via a phone call made to her, followed by more emails eventually in English. She has further followed up on her own via email.

### A Traditional TCM Viewpoint on Herbal Extracts

As mentioned above, the contacts of my initial reach out did not provide any lead on an Icariin 98 distributor. They did instead though bring to light a point of view upon modern western medicine and the use

of herbal extracts specifically. Already above, one TCM practitioner expressed the wasteful impact of using large amounts of herbal plants to extract small active components and the stresses it puts on whole plant/herb growing and distribution. Additionally, I personally can see that this would bring a taxing quality to land area used, soil nutrition and water resources as well as possibly being a powerful boosting force to herb prices.

One of my initial contacts was my old friend Professor Luo Jiangxi, a professor of Anatomy at Guilin Medical University in the city of Guilin, Guangxi province. Professor Luo is also an avid practitioner and propagator of TCM, inspired by his use of TCM and Tai Chi to overcome lung cancer. He took my letter of inquiry into Icariin and passed it onto his colleague Professor Zhao of the Basic Medical Sciences Department of Guilin Medical University. Professor Zhao discussed my inquiry with peers and students and had another friend of mine, who is studying under Professor Zhao, pass on the results of that discussion to me via Wechat. This is his reply, using my translation from the original Chinese:

"Hello Alan! This is Huang Yi. Long time no see! Everything is going well, no? Regarding your "Icariin" request, Mr. Luo already inquired with Professor Zhao of our School of Basic Medical Sciences. Due to discussions and other reasons our reply is coming so late, our apologies! With regards your request I'm providing Professor Zhao's suggestion as feedback:

1. The hope of you and the students to find 100% pure Icariin, this in reality is very difficult. This is because there is no example of 100% matter in existence. Even the purest water is not 100% pure. This is due to the existence of "Qi."
2. Our insight is this: purely extracting active components does not align with the fundamental direction of research and development of traditional Chinese medicine and therefore is not suitable for the development of traditional Chinese medicine. From ancient times traditional Chinese medicine research has followed the direction of "combining." Ancient Chinese decoctions, and more modern "compound preparations," all adhere to this direction of traditional Chinese medicine development."

This reply was an effort on part of Professor's Zhao and Luo to elucidate a fundamental difference in TCM and western medicine and thus their directions of research and development. Whereas "combining" is the foundational approach to TCM and its R&D, in stark contrast "separation" is a basic characteristic of western medicine and its R&D. A simple example of this modern western medicine approach is evident in the use of whole plant sources to separate, through extraction, single active components from the rest of the components. Western medicine's development of surgery in general, organ removal and transplantation specifically, along with scientific discoveries of the atom, electron, proton, neutron and on further to even smaller quarks, are all examples of the "separation" approach to understanding and creatively working with material existence. "Combining" parts of a whole plant into the combination of an herbal decoction in order to harmonize all the parts of human being with all parts of human life characterizes the holistic approach of TCM.

The professors reply was also an effort to encourage more dialogue between east and west, TCM and western medicine. One reason for this is that TCM is much less understood in general around the world, yet its benefits are obvious to those who understand it, practice it and use it for the curing and prevention of illness. Along with the above reply my friend also passed along four studies of the beneficial effect of TCM on AIDS, stroke and a variety of gastrointestinal disorders.

My final contact came via the already mentioned Mr. Tong, pictured with me above. He passed on late in the study the contact of Ms. Tang of Taikomed. I had a professional and courteous conversation with her on the phone, and the information and materials she shared with me via email and Wechat will be in the appendixes. This concludes my description of the chronological events and activities that occurred during the field study.

## Sourcing Icarin in China—Recommendations

My first recommendation is with regards the use of the list of distributors in Appendix 1. When contacting distributors, I recommend following the order of the list, contacting first and making more concerted effort with those at the top of the list. Ease of communication in English and professionalism will come clearly from Sinoway at the top of the list. All the other listed candidates claimed to have English capabilities, but the level of English won't be clear until communication is begun. Again, it's my hope that this study can also aid any other BMU representatives who might contact distributors that can be found on the Alibaba international site. The probability of finding distributors with good English capabilities is higher on that site, and their international shipping capabilities go without saying.

Another recommendation is to download the Wechat social networking app. Not only does nearly everyone in China use it (it just passed the one billion user mark), but it can provide another layer of research and understanding into distributors. Granted I have not worked directly with distributors on Alibaba as much as the domestic 1688, whose distributors will be very likely to utilize Wechat. Distributors' form of communication on Alibaba might not utilize Wechat. Yet, if a representative of BMU requested a distributor to communicate on Wechat, they would very likely be forthcoming. In domestic communications it was often easier to use, with quicker response from distributors, as opposed to the 1688 app.

1688 warns users not to use Wechat in the event of running into a scam, so it should only be used once there is a high level of certainty that the distributor is legitimate. After becoming a bit savvy to potential scamming, I only used Wechat after certain documents were not able to be sent over the 1688 app (another drawback of 1688 versus Wechat), and after I felt the distributor was dealing with me transparently. I again used this to provide another layer of confirmation that the distributor was legit.

Unfortunately, caution is still very much recommended when looking for a distributor of Chinese-sourced herbal and food products. In addition to the two suspicious distributors described above I found the information below, on the website of China's version of the FDA, or CFDA:

The screenshot shows the website www.sda.gov.cn with a search bar and navigation links. The main content area is titled '曝光栏' (Exposure Column) and lists several food safety incidents. The incidents are as follows:

- 安徽淮南查扣61吨含高氯酸钠的不合格食盐 (2018-02-09)
- 宁波查获6600吨走私进口白糖查获数量为单次最多 (2018-02-07)
- 株洲警方查获问题肉6000余斤4名嫌疑人被刑拘 (2018-02-07)
- 山西阳泉打掉一条假冒食盐销售链 查扣假盐4.72吨 (2018-01-29)
- 佛山端掉96个涉食品药品犯罪窝点 (2018-01-29)
- 京冀多部门查河间驴肉非法加工 中正圆食品公司停业 (2018-01-10)
- 湖南新化公安查获一起生产销售有毒食品案 (2018-01-08)
- 餐馆老板与工人对牛肉添加亚硝酸盐致7人中毒被判刑 (2018-01-02)
- 长沙：民房盘踞假酒窝点 涉案上千万 (2017-12-27)
- 徐州铜山警方破获特大制售假酒案 (2017-12-26)
- 大连警方破获高档假红酒产业链 涉案金额3亿余元 (2017-12-20)
- 苏州：太仓8家食品生产企业被责令停产 (2017-12-20)
- 苏州警方破获假保健食品案缴获半成品近两吨 (2017-12-14)
- 广东近半年查办食品保健品欺诈营销案货值超2亿 (2017-12-12)
- 湖北：发布食品安全黑名单 37人被禁止从业 (2017-12-12)
- “塑料紫菜”事件造谣者因敲诈勒索被判一年十个月 (2017-11-30)
- 成都打掉一特大假冒糖果生产窝点 查获原辅料10吨 (2017-11-30)
- 北京市丰台区食药安委集中销毁18吨假冒名酒 (2017-11-30)
- 江西九江：启动“镉大米”事件相关责任人问责程序 (2017-11-30)
- 广东河源：甲醇中毒事件4名涉案人员被刑拘 (2017-11-30)

At the bottom of the page, there are navigation controls: '第1页/共3页' (Page 1 of 3), '共53条' (Total 53 items), and buttons for '首页' (Home), '上一页' (Previous Page), '下一页' (Next Page), '尾页' (Last Page), and a search box with 'GO'.

Figure 6 Screenshot of China's FDA website and reports of recent food and drug safety cases.

Since this section of the website, and this specific webpage, could not be found on the English version of the site I am providing a translated sampling of a few of the reports listed in the above screenshot. The reports listed above are of what has been happening around the food and drug safety world in China as listed on the Chinese version of the website as of March 1<sup>st</sup> 2018, here are three samples:

- In Foshan 96 food and drug product related criminal hideouts were eradicated (2018-01-29)
- Suzhou police solved a fake health supplement case confiscating nearly two tons of partially prepared product. (2017-12-14)
- For nearly half a year in Guangdong two hundred million yuan worth of products from fraudulent food supplement marketing scam cases was confiscated. (2017-12-12)

The rest of the reports include completed investigations of fake or adulterated wine, candy, meat and salt. This is not to say that China is the only country with these kinds of issues, or even the most, as many countries find themselves perverting their creativity for the sake of quick easy profits at the expense of customers health and safety. Clearly though, due diligence when sourcing from China is still the best course.

Finally, and in light of the above reports I would recommend requesting samples of Icariin from distributors. Shipping charges for samples are often the responsibility of the customer, but that needs to be clarified and/or negotiated. Using samples to research first would be another layer of developing a trustworthy partnership as well as preempt any waste of financial resources on a large quantity of bad quality product.

## **Sourcing Icariin in China—Conclusion**

In conclusion, the result of this field study turned up a number of possible distributors of Chinese Icariin 98, as originally desired, yet results beyond the study's original scope also appeared. Understanding around the issue of Icariin's purity and area of production as well as an unsought but valuable cross-cultural exchange also came to light. The process of locating distributors helped develop practical means of sifting through the veritable "hay stack" of the large Chinese herbal extract market for the elusive "needle."

Through this study a higher degree of awareness of the herbal extract industry in China, it's risks and some means of reducing that risk, were attained. Purchasing from distributors in China presents risks of finding "bad apples," which often garner more attention and engender more apprehension in consumers. As with anything in China, everything comes in large numbers, it is just a matter of finding the quality "good apples," as the Chinese herbal extract industry is so robust. With such large availability of the Epimedium plant alone in China's north central province of Shaanxi, the number of distributors of the whole plant, and its extract Icariin, is large and open for exploration. The study provided more certainty into the legitimacy of the listed distributors, means to ascertain further certainty in future correspondences with these companies, as well as developing certainty in new companies in the future who are part of the larger industry. If the large number of distributors there are mostly sourcing their Icariin from just a handful of manufacturers, I was unfortunately unable to ascertain this. The predominant factor I went on to verify as much as I could the legitimacy and reliability of distributors was primarily their people, and the way they interacted with me. Professionalism (including transparency), politeness, patience, and promptness with some care thrown in, were all part of what I was looking for from the service of these companies representatives. Companies having proper certification for Icariin, an international presence online, either via Alibaba business transactions and/or private international websites, all afforded an extra layer of confidence in the companies listed.

Increased understanding around the issue of purity was obtained. Across the board, 98% purity, or just a bit above, is the highest purity anyone is manufacturing and selling as discovered at this time by this study. This leaves any desired attainment of higher purities up to doing the extraction on one's own. If large enough amounts of Icariin 98 are needed the possibility of BMU partnering with my uncle-in-law can be explored. The question of purity according to the findings of this small field study is that technology is the

main hindrance to achieving higher purities, thus if a product of satisfactory quality can be purchased that may be just what is needed for BMU's graduate student research. Please refer to the COA's for levels of purity in Appendix 2.

In tandem, the beginning of a cross-cultural exchange that this study inspired was a valuable addition to the effort. The initial exchange brought the side of Traditional Chinese Medicine's point of view into the nature of the use of herbal extracts used widely in western medicine R&D and production. I look forward to more exchange around this topic and around the development of more understanding in general around what is Traditional Chinese Medicine specifically.

Connections to new contacts and reunions with old friends and acquaintances took place during this study which helped expand my own social and professional networks, as well as bolster old relations and connections. For this I am grateful and hope that these connections can also become useful connections for BMU. I feel that the list of distributors I am providing below are good places to start and take the next step in the process of purchasing Icariin 98. If conditions permit I hope that I can be of future aid to BMU in its effort and process of purchasing high quality extracts for the purpose of creating new and better medicines, in developing transparent and trustworthy business connections and in forging bridges of communication and understanding between eastern and western medicine and culture.

## Appendix 1

The distributors I am recommending all possess certain qualities that I felt should be mandatory for their possible continuing cooperation with BMU. Those qualities being polite, professional and prompt communication and service, English speaking or at least English reading and writing capabilities, international business and shipping capabilities, and legitimate business practices. Those that didn't possess these during the course of my inquiries have already been sifted out. The distributors in the list below are presented in order of recommendation, with those that are highly recommended to begin contacting first at the beginning of the list. Pricing is done at the USD/CNY rate of 1:6.32 as of March 22, 2018.

1.

Distributor Name: Xiamen Sinoway Industrial Co. Ltd.

Chinese Name: 厦门环华有限公司 Xiamen Huanhua Youxian Gongsi

Location: Xiamen, Fujian Province, China

Certificate of Analysis: Yes. See Appendix 2.

Email: Dr. Annette Wang [wxh@china-sinoway.com](mailto:wxh@china-sinoway.com) ; [sale3@china-sinoway.com](mailto:sale3@china-sinoway.com)

Telephone: 0086-592-5881087; 0086-592-5854962

Website: <http://www.sinowaychem.com/>

Wechat:

Alibaba: [https://china-sinoway.m.en.alibaba.com?tracelog=alisupplier\\_sns\\_minisite](https://china-sinoway.m.en.alibaba.com?tracelog=alisupplier_sns_minisite)

1688:

Pricing: About 25 CNY/g. See screenshot of email in Appendix 2.

Service: Great service with follow-up emails days later after correspondence seemed to have been finished for the time being.

Notes: Ideally, I wanted to meet with Dr. Wang, but her schedule wouldn't allow it before this field study was due. If needed a meeting can be set up with her following the handing in of the study. Our correspondences via phone and email have lent to the recommendation that Sinoway is a good place for BMU to start the process of doing business with a distributor. In her emails she mentioned "our mfr. (manufacturer) has the certification of production, certification of Kosher and certification of quality management systems; It has been qualified by the US National Organic Program (NOP)." All of which can be seen upon request from her. See Sinoway's Icarin COA and product images in Appendix 2.

2.

Distributor Name: Xi'an Taikomed Pharmaceutical Technology Co.,LTD

Chinese Name: 西安泰科迈医药科技股份有限公司

Location: Xian, Shaanxi Province, China

Certificate of Analysis: Yes. See Appendix 2.

Email: [techno8833@taikomed.com](mailto:techno8833@taikomed.com)

Telephone: 86-29-81107958

Website: [www.taikomed.com](http://www.taikomed.com)

Wechat: techno8833

Alibaba:

1688:

Pricing: 23,000-24,000 CNY/kg.

Service: Good service with prompt communication predominately via Wechat.

Notes: I received this connection via Mr. Tong only three days before the deadline of this study. I called the contact, Ms. Tang, who is the company's board chairman, see picture of her card in Appendix 2. This company's website is just a homepage and nothing else. We talked briefly on the phone and after adding her Wechat I spoke with her fairly extensively. Her company is mostly involved with R&D, though they do some distribution through a partner company, who she will connect me or a BMU representative with if purchasing goes forward. As this company is involved with distribution her company has limited online presence and no presence on Alibaba or 1688.

She inquired about BMU's purpose with Icariin, and after I mentioned the possibility of producing pharmaceutical grade gels with the aim of addressing erectile dysfunction, she said she has experience in the production of about 10 different creams. She relayed that Icariin used by itself has had limited clinical efficacy. She suggested that her company could partner with BMU and one possible partnership could be they could do the R&D for BMU. Please see Appendix 2 for more information about this company and the scope of their operations.

3.

Distributor Name: Xi'an Xuhuang Bio-Tech Co. Ltd.

Chinese Name: 西安旭煌生物技术有限公司 Xian Xuhuang Shengwu Keji Youxian Gongsi

Location: Xian, Shaanxi Province, China

Certificate of Analysis: Yes. See Appendix 2.

Email: [market@xuhuang.com](mailto:market@xuhuang.com)

Telephone: 0086-29-88823271

Website: [http://www.xuhuang.com/En/w\\_index.asp](http://www.xuhuang.com/En/w_index.asp)

Wechat: wxid\_nxhmg2uudroq22

Alibaba: <https://xuhuang.en.alibaba.com/>

1688: 西安旭煌生物技术有限公司

Pricing: 20,000 CNY/kg. 20 CNY/g.

Service: Good service with prompt communication predominately via Wechat.

Notes: When asked about their international clients this company's representative claimed they had done business with 美国百思草生物 and 阿威药业. The rep. didn't know the English names even saying their client list is private. The first company I could find no information on let alone an English name, and the second company could be Avik Pharmaceutical Ltd. out of India. <http://www.avikpharma.com/index.html>.

4.

Distributor Name: Day Natural Co. Ltd.

Chinese Name: 西安岳达生物科技股份有限公司 Xian Yueda Shengwu Keji Gufen Youxian Gongsi

Location: Xian, Shaanxi Province, China

Certificate of Analysis: Yes. See Appendix 2.

Email:

Telephone:

Website: [www.daynatural.com/](http://www.daynatural.com/)

Wechat: 18702951400

Alibaba: [https://www.alibaba.com/product-detail/epimedium-extract-icariin-98-best-price\\_319424862.html?spm=a2700.7724838.2017121.19.407660bcdt9lla](https://www.alibaba.com/product-detail/epimedium-extract-icariin-98-best-price_319424862.html?spm=a2700.7724838.2017121.19.407660bcdt9lla) ; <https://daynatural.en.alibaba.com/>

1688: <https://qr.1688.com/share.html?secret=A47sqnUn>

Pricing: 30 CNY/g.

Service: Good service with prompt communication predominately via 1688.

Notes: On the Chinese Alibaba 1688 platform it is a 6 year "Trusted Seller" and has met Alibaba's requirements to be an "Authorized Business." As can be seen they have an international online presence on and off of the Alibaba platform. My contact with this company came only from the Chinese domestic 1688.

5.

Distributor Name: Hebei Gongchuang Shengwu Keji Youxian Gongsi

Chinese Name: 河北共创生物科技公司

Location: Hebei Province, China

Certificate of Analysis: Yes. See Appendix 2.

Email: 2128916930@qq.com

Telephone:

Wechat:

Alibaba

1688: 河北共创生物科技公司

Pricing: 24,000 CNY/kg.

Service: Satisfactory service with prompt communication predominately via 1688.

Notes: On the Chinese Alibaba 1688 platform it is a 9 year "Trusted Seller" and has met Alibaba's requirements to be an "Authorized Business."

6.

Distributor Name: Shanxi Ciyuan Shengwu Jishu Youxian Gongsi

Chinese Name: 陕西慈缘生物技术有限公司

Location: Shanxi Province, China

Certificate of Analysis: Yes. See Appendix 2.

Email: 2881768100@qq.com

Telephone:

Website: <http://ciybio.com/eng/index.asp>

Wechat:

Alibaba:

1688: 陕西慈缘生物技术有限公司.

Pricing: 20,000 CNY/kg

Service: Satisfactory service with prompt communication predominately via 1688.

Notes: On the Chinese Alibaba 1688 platform it is a 9 year "Trusted Seller" and has met Alibaba's requirements to be an "Authorized Business."

7.

Distributor Name: Xian Yunpingjing Shengwu Keji Co. Ltd.

Chinese Name: 西安云屏景生物科技有限公司

Location: Xian, Shaanxi Province, China

Certificate of Analysis: Yes. See Appendix 2.

Email:

Telephone:

Website:

Wechat:

Alibaba

1688: 西安云屏景生物科技有限公司

Pricing: 23,000 CNY/kg.

Service: Satisfactory service with prompt communication predominately via 1688.

Notes: On the Chinese Alibaba 1688 platform it is a 2 year "Trusted Seller" and has met Alibaba's requirements to be an "Authorized Business."

## Appendix 2

The list order of distributors in Appendix 2 mirrors the list order of Appendix 1. Appendix 2 contains materials sent to me by distributors, mostly Icarin 98 certificates of analysis (COA).

Distributor Name:

Chinese Name:

1.

Distributor Name: Xiamen Sinoway Industrial Co. Ltd.

Chinese Name: 厦门环华有限公司 Xiamen Huanhua Youxian Gongsi



Figure 7 Icarin 98 product image 1 from Sinoway.



Figure 8 Product image 2.

# SINOWAY INDUSTRIAL CO.,LTD.

16/F.,HUICHENG COMM.COMPLEX, 839 XIAHE RD.,XIAMEN,CHINA

TEL: 0086-592-5854962

POSTCODE: 361004

FAX: 0086-592-5854960

E-MAIL: [sale3@china-sinoway.com](mailto:sale3@china-sinoway.com)

## CERTIFICATE OF ANALYSIS

产品名称 (Produce Name): 淫羊藿提取物 (Epimedium P. E.)  
 植物名称 (Botanical Name): *Epimedium brevicornum Maxim*  
 批号 (Batch Number): 170922 检验日期 (Analysis Date): 2017-09-23  
 生产日期 (Manufacture Date): 2017-09-22 失效日期 (Expiry Date): 2019-09-21  
 批 量 (Batch Quantity): 500Kg 使用部位 (Used Part): Leaf 叶

检测项目 Items	标准 Standards	检测结果 Results	检测方法 Method
理化分析 Physical and chemical analysis:			
性状 Description	浅黄色粉末 Light yellow powder	符合规定 Qualified	Visual
气味及味道 Flavor&Odor	特有的气味及味道 Typical Flavor&Odor	符合规定 Qualified	Organoleptic
分析 Assay	单甙 Icarin ≥98%	98.25%	HPLC
粒径 Mesh Size	80 目 100% pass 80 mesh	80 mesh	CP2015
鉴别 Identification	显示相同斑点	符合规定 Qualified	TLC
灰分 Ash Content	≤5.0%	0.81%	CP2015
干燥失重 Loss on Drying	≤5.0%	0.72%	GB 5009.3
松密度 Bulk Density	40~60g/100ml	51g/100ml	CP2015
紧密度 Tap Density	60~90g/100ml	66g/100ml	CP2015
残留物分析 Residue Analysis:			
重金属 Heavy Metal	≤10ppm	符合规定 Qualified	CP2015
铅 (Pb)	≤1.0ppm	符合规定 Qualified	GB 5009.12-2003
砷 (As)	≤1.0ppm	符合规定 Qualified	GB 5009.11-2003
汞 (Hg)	≤0.3ppm	符合规定 Qualified	GB 5009.17-2010
镉 (Cd)	≤1.0ppm	符合规定 Qualified	GB 5009.15-2014
溶剂残留 Solvents Residue	Meet Eur. Ph. 7.0 <5.4>	符合规定 Qualified	Eur. Ph 7.0 <2.4.24>
农药残留 Pesticides Residue	Meet USP Requirements	符合规定 Qualified	USP34 <561>
微生物 Microbiological:			
细菌总数 Total Plate Count	≤1000cfu/g	100cfu/g	GB 4789.2
霉菌及酵母菌 Yeast&Mold	≤100cfu/g	10cfu/g	GB 4789.15
大肠杆菌 E. coil	无 Negative	无 Negative	GB 4789.3
沙门氏菌 Salmonella	无 Negative	无 Negative	GB 4789.4
一般状态 General Status:			
GMO Free	Complies	Complies	
一般资料 General Information:			
结论 Conclusion	合格 Conform to specification.		

**From:** wang xiaohong <wxh@china.sinoway.com>  
**Sent:** Tuesday, March 13, 2018 4:56:49 PM  
**To:** shangshanenzymes@outlook.com  
**Cc:** shi@china.sinoway.com  
**Subject:** Fw: Fw: 找淫羊藿苷

Dear Alan,

For the quotation of Epimedium P.E, please find the information as below:

**Re: Epimedium P.E, cas no.: 489-32-7**

Quality: Enterprise Standard, 98% up by HPLC, Please find the COA in the attachment.

Quantity: 500gram

Price: CIP Dominica **USD 1995 /500g** for 500 gram as not dangerous goods,

valid: two weeks;

package: 500g /PE bag with aluminium foil bag

shipment: In two weeks after your final confirmation;

Payment: T.T in advance or L/C at sight

Please let me know if you have any questions.

Thanks and best regards  
 Sinoway / Dr. Annette Wang  
 Tel:0086-592-5881087  
 Fax:0086-592-5854960  
 Mobile:0086-15882299465

2.

Distributor Name: Xi'an Taikomed Pharmaceutical Technology Co.,LTD

Chinese Name: 西安泰科迈医药科技股份有限公司

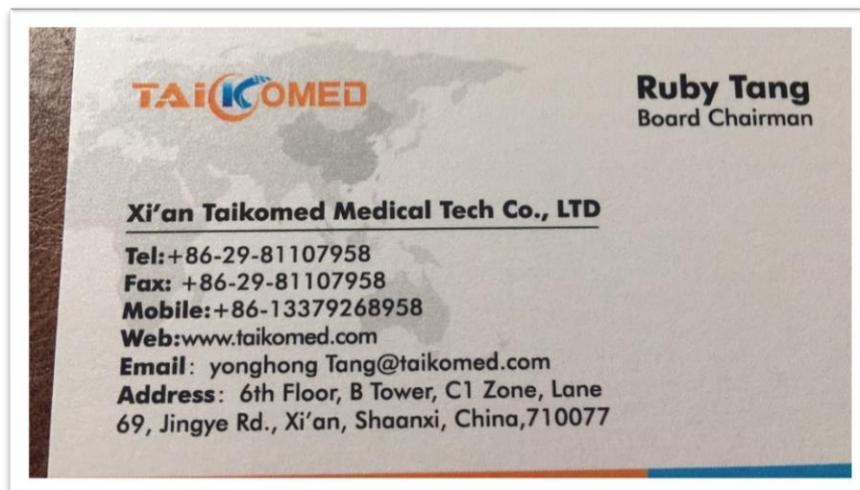


Figure 9 Taikomed contact business card.

The below information is from materials sent to me by Ms. Tang. More information about this company is available if needed as below is only a part.

"Xi'an Taikomed Pharmaceutical Technology Co., Ltd. is a high-tech enterprise specialized in the research and development, technology transfer, technical consultation and technical services of new drug. It is located in Xi'an Hi-Tech Industrial Development Zone of Xi'an and has a history of more than 20 years. It also is approved of the post-doctoral innovation base of Shaanxi Province as well as the model enterprise cooperated with Xi'an Jiaotong University, Northwestern University etc.; Taikomed successively cooperated with Tsinghua University, China Pharmaceutical University, Xi'an Jiaotong University, Northwestern University, Shaanxi University of Science and Technology, Shanghai State Key Laboratory of Antibody Drug and Targeting and Nano-drug and drug delivery system engineering and technology research center affiliated to Shandong Province, Shaanxi Pharmaceutical Holdings Group And other units to establish a comprehensive technical and strategic cooperative relations. Taikomed has established overseas technical cooperation with the pharmaceutical research and development institutions from United States, Canada, Britain, Cyprus and other countries.

Taikomed has more than 1500 m<sup>2</sup> of drug development laboratories and 2000m<sup>2</sup> pilot bases for pharmaceutical scale-up preparations. At the same time, Taikomed established sound medical technology research and development platform, medical information and market service platform, investment and financing services platform. The company attaches importance to the construction of personnel, there are more than 45 core technical staff, including 13 person with Dr. and master's degree, the peripheral support team include 16 pharmaceutical experts. To increase the construction of qualified personnel, the company have introduced Ph.D., Master from the China Pharmaceutical University, Tsinghua University, Chinese Academy of Sciences Institute of Chemistry, Wuhan University and many other famous institutions, and talents like experts and professors from both domestic and abroad with drug development experience to established Long-term technical cooperation. Taikomed created a combination of Chinese and foreign experts team in drug research and development.

For years, Taikomed Pharmaceutical has enhanced innovative drug research and the quality consistence evaluation for pharmaceutical companies in order to provide the best and safest drugs. Combined with modern precision immunotherapy, micro-scale drug delivery and other medical technology, Taikomed developed drugs focus on the remedy of anti-tumor, cardiovascular and cerebrovascular, diabetes, immune system diseases. Taikomed has achievement of a series of related fields of drug synthesis and preparation process, cardiovascular and endocrine and other therapy areas, as well as on the new drug slow release preparations, such as PEG drugs Carriers and modified drugs, TKM-286 and TKM-383 and other anti-tumor innovative drugs. Taikomed aim to get a major breakthrough in drug absorption, targeted therapy, drug safety and other aspects.

After four years of fast developing, Taikomed Pharmaceutical has won the "AAA-level credit units in Shaanxi Province", "Shaanxi private technology enterprises", " The intellectual property advantages enterprises of Xi'an High-tech

Zone, ", "Shaanxi advanced scientific and technological units", " Identified enterprises ", " Shaanxi famous brand "enterprises and other honors. Taken technology development as the core, Taikomed move along the professional, group, capital, international road ahead.

Our professional R & D team has successfully submitted to the CFDA a number of generic varieties;

High quality assurance system to ensure the accuracy of the data, authenticity, integrity and traceability;

Efficient work processes, standardized operating, comprehensive solutions and reporting templates;

Advanced equipment, including Sotax / Hanson and other automatic dissolution instrument to meet the GMP solid preparation requirements of the pilot plant, to ensure the completion of the project efficiency and time;

Cooperating with a number of good biological sample testing and clinical research partners to ensure the rapid implementation of the project.

Technical Services:

1, R & D services

API (synthetic research, key intermediate synthesis, registration of raw materials)

Consistency evaluation (oral solid preparation /non-oral system consistency evaluation, injection re-evaluation, generic drug preparation, preparation process verification and supplemental application)

New drug research, patent and key drug development registration

2, Health food registration

Health food registration, technology transfer, technology alternative registration and re-registration services, GMP certification services, new food raw materials development and registration

3, *In vitro* diagnostic reagents registration, medical equipment registration, cosmetics registration

Clinical trial services: Bioequivalence test (BE filing / program formulation, BE and pre-BE studies, biological sample analysis)

Drug safety, efficacy studies; clinical trials of new drugs and medical devices; clinical trials of *in vitro* diagnostic reagents

Data management and statistics; overseas BE test"

西安泰科迈医药科技股份有限公司

Xi'an Taikomed Pharmaceutical Technology Co.,LTD

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Tel:+86-29-81107958 Fax:+86-29-81107958 www.taikomed.com

质量检验报告

CERTIFICATE OF ANALYSIS

产品名称 (Produce Name) : 淫羊藿提取物 (Epimedium P.E.)

植物名称 (Botanical Name) : *Epimedium Brevicornum*

批号 (Batch Number) : CYY170112

检验日期 (Analysis Date) : 2017-01-12

生产日期 (Manufacture Date) : 2017-01-12

失效日期 (Expiry Date) : 2019-01-11

提取溶剂 (Solvents Used) : Water&amp;Ethanol

使用部位 (Used Part) : Leaf

检测项目 Items	标准 Standards	检测结果 Results	检测方法 Method
<b>理化分析 Physical and chemical analysis:</b>			
性状 Description	淡黄色粉末 Faint yellow Powder	符合规定 Qualified	Visual
含量 Assay 淫羊藿甙 Icaritin	≥98% (HPLC)	98.05% (HPLC)	HPLC
粒径 Mesh Size	80 目 100%pass 80mesh	符合规定 Qualified	CP2010
Identification	(+)	Positive	TLC
灼烧残留 Ash Content	≤0.50%	0.23%	CP2010
干燥失重 Loss on Drying	≤5.0%	2.45%	CP2010
<b>残留物分析 Residue analysis:</b>			
重金属 Heavy Metal	≤10ppm	符合规定 Qualified	CP2010
铅 (Pb)	≤2ppm	符合规定 Qualified	GB/T 5009.12-2003
砷 (As)	≤2ppm	符合规定 Qualified	GB/T 5009.11-2003
汞 (Hg)	≤2ppm	符合规定 Qualified	GB/T 5009.15-2003
镉 (Cd)	≤2ppm	符合规定 Qualified	GB/T 5009.17-2003
溶剂残留 Solvents Residue	Meet Eur.Ph.7.0 <5.4>	符合规定 Qualified	Eur.Ph 7.0<2.4.24>
农药残留 Pesticides Residue	Meet USP Requirements	符合规定 Qualified	USP34 <561>
<b>微生物 Microbiological:</b>			
细菌总数 Total Plate Count	≤1000cfu/g	符合规定 Qualified	AOAC990.12,16th
霉菌及酵母菌 Yeast&Mold	≤100cfu/g	符合规定 Qualified	AOAC996.08、991.14
大肠杆菌 E.coil	无 Negative	无 Negative	AOAC2001.05
沙门氏菌 Salmonella	无 Negative	无 Negative	AOAC990.12
<b>一般状态 General Status:</b>			
GMO Free	Complies	Complies	
Non-Irradiation	Complies	Complies	
<b>一般资料 General Information:</b>			
结论 Conclusion	合格 Conform to specification.		
包装 Packing	外包装为纸板桶, 内包装为双层塑料袋, 25kg 纸板桶尺寸为直径 35cm, 高 51cm; Packed in paper-drums and two plastic-bags inside. N.W:25kgs .I.D.35×H51cm;		

存储条件 Storage	请存放在阴凉干燥的地方，远离强光和热源。 Keep in cool & dry place. Keep away from strong light and heat.
保质期 Shelf life	原包装状态保质期 24 个月。 24 months under the conditions above and in its original packaging.
灭菌方式 Sterilization	高温灭菌 High temperature.

质检科长：齐华锋

检验员：王敏

Quality Assurance Office: Qi Huafeng

Analyst: Wangmin

3.

Distributor Name: Xi'an Xuhuang Bio-Tech Co. Ltd.

Chinese Name: 西安旭煌生物技术有限公司



西安旭煌生物技术有限公司

Xi'an xuhuang Bio-Tech Co.,L td.

## 质量检验报告

### CERTIFICATE OF ANALYSIS

产品名称 (Produce Name) : 淫羊藿提取物 (Epimedium P.E.)

植物名称 (Botanical Name) : *Epimedium brevicornu Max-im*

批号 (Batch Number) : XH171015

检验日期 (Analysis Date) : 2017-10-16

生产日期 (Manufacture Date) : 2017-10-15

失效日期 (Expiry Date) : 2019-10-14

批量 (Batch Quantity) : 500Kg

使用部位 (Used Part) : 叶 Leaf

检测项目 Items	标准 Standards	检测结果 Results	检测方法 Method
<b>理化分析 Physical and chemical analysis:</b>			
性状 Description	淡黄色粉末 Light Yellow Powder	符合规定 Qualified	Visual
杂质 Impurity	无可见外来杂质 No visible impurity	符合规定 Qualified	Visual
味道&气味 Taste&Odor	特有的气味和味道 Typical	符合规定 Qualified	Organoleptic
提取溶剂 Extract Solvent	乙醇和水 Ethanol&Water	符合规定 Qualified	/
分析 Assay	淫羊藿甙 Icarin $\geq 98\%$ (HPLC)	98.16% (HPLC)	HPLC
鉴别 Identification	(+)	Positive	TLC
灼烧残留 Ash Content	$\leq 5.0\%$	4.13%	CP2015
干燥失重 Loss on Drying	$\leq 5.0\%$	1.98%	CP2015
粒径 Mesh Size	100%过 80 目 100%pass 80 mesh	80 mesh	CP2015
松密度 Bulk density	40~60g/100mL	50g/100ml	USP32<616>
紧密度 Tap density	60~90g/100mL	70g/100ml	USP32<616>

<b>残留物分析 Residue analysis:</b>			
重金属 Heavy Metal	≤20ppm	符合规定 Qualified	CP2015
铅 (Pb)	≤2ppm	0.13ppm	GB 5009.12-2010
砷 (As)	≤1ppm	0.34ppm	GB 5009.11-2014
汞 (Hg)	≤0.1ppm	0.03ppm	GB 5009.17-2014
镉 (Cd)	≤1ppm	0.27ppm	GB 5009.15-2014
溶剂残留 Solvents Residue			
乙醇 Ethanol	≤200ppm	符合规定 Qualified	Eur. Ph 7.0<2.4.24>
农药残留 Pesticides Residue			
六氯联苯 666	≤0.2ppm	符合规定 Qualified	CP2015
二氯二苯三氯乙烷 DDT	≤0.2ppm	符合规定 Qualified	CP2015
<b>微生物 Microbiological:</b>			
细菌总数 Total Plate Count	≤1000cfu/g	符合规定 Qualified	GB 4789.2-2016
霉菌及酵母菌 Yeast&Mold	≤100cfu/g	符合规定 Qualified	GB 4789.15-2016
大肠杆菌 E. coil	无 Negative	无 Negative	GB 4789.3-2016
沙门氏菌 Salmonella	无 Negative	无 Negative	GB 4789.4-2016
<b>一般状态 General Status:</b>			
非转基因 GMO Free	Complies	Complies	
<b>一般资料 General Information:</b>			
结论 Conclusion	合格 Conform to specification.		
存储条件 Storage	Keep in cool & dry place. Keep away from strong light and heat.		

地址: 西安市高新三路 8 号橙仕空间 1105 室

邮编: 710075

电话: 029-88823272

传真: 029-88823270

网址: www.xuhuang.com

E-mail: liya@xuhuang.com



西安旭煌生物技术有限公司

Xi'an xuhuang Bio-Tech Co.,L td.

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保质期 Shelf life	原包装状态保质期 24 个月。 24 months under the conditions above and in its original packaging.
灭菌方式 Sterilization	高温灭菌 High temperature.

地址：西安市高新三路 8 号橙仕空间 1105 室

邮编：710075

电话：029-8882327188823272

传真：029-88823270

网址：www.xuhuang.com

E-mail: liya@xuhuang.com

4.

Distributor Name: Day Natural Co. Ltd.

Chinese Name: 西安岳达生物科技股份有限公司 Xian Yueda Shengwu Keji Gufen Youxian Gongsi



## 检测报告

产品名称: 淫羊藿单甙

CAS 号: 489-32-7

分子式:  $C_{33}H_{40}O_{15}$

分子量: 676.66

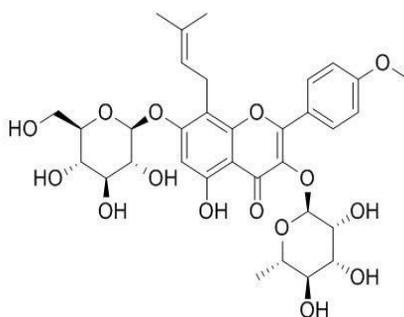
数量: 1kg

取样日期: 2017-11-23

检测日期: 2017-11-24

报告日期: 2017-11-24

产品批号: DNYF1707039



检验项目	检验标准	检验结果	检验方法
性状	粉末状, 无杂	符合规定	
色泽	黄色	符合规定	
气味	具其特殊气味	符合规定	

淫羊藿单甙

≥98%

98.3%

HPLC

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结论：以上检验项目 **符合** 检验标准。

5.

Distributor Name: Hebei Gongchuang Shengwu Keji Co.

Chinese Name: 河北共创生物科技有限公司

Icariin Certification of Analysis



共创生物  
gongchuang

河北共创生物科技有限公司

## CERTIFICATE OF ANALYSIS

<b>Product name</b>	Epimedium Plant Extract
<b>Botanical source</b>	<i>Epimedium brevicornum</i>
<b>Plant part used</b>	Leaves
<b>Batch Number</b>	GC171229
<b>Batch Quantity</b>	5000G
<b>Manufacture Date:</b>	Dec. 29, 2017
<b>Date of Certificate</b>	Jan. 2, 2018

ANALYSIS	SPECIFICATION	RESULTS
Appearance	Light Yellow fine powder	Complies
Odor	Characteristic	Complies
Assay (HPLC)	Icariin $\geq$ 98.0%	98.21%
Sieve analysis	NLT 95% pass 80 mesh	Complies
Loss on Drying	$\leq$ 5.0%	3.36%
AshV	$\leq$ 5.0%	2.68%
Heavy Metal	<20ppm	Complies
As	<2ppm	Complies
Residual Solvents	Eur.Pharm.	Complies
<b>Microbiology</b>		
Total Plate Count	<1000cfu/g	320cfu/g

Yeast & Moulds	<100cfu/g	20cfu/g
E.Coli	Negative	Complies
Salmonella	Negative	Complies

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**Conclusion** Conform with specification

**Storage** Store in sealed containers at cool & dry place.  
Protect from light, moisture and pest infestation.

**Shelf life** 2 years when properly stored

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**Quality Assurance Officer**

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**Quality Control**

6.

Distributor Name: Shanxi Ciyuan Shengwu JishuYouxian Gongsi

Chinese Name: 陕西慈缘生物技术有限公司



## 杨凌慈缘生物技术有限公司

Add: 2-1804, International Park Mansion, No.2, South Fengdeng Road, Xi'an  
[Http://www.ciybio.com](http://www.ciybio.com) Tel: 0086-29-81338601 Fax: 0086-29-81337825

# CERTIFICATE OF ANALYSIS

<b>Product name</b>	Epimedium Extract
<b>Botanical source</b>	<i>Epimedium Brevicornum</i>
<b>Plant part used</b>	Leaf
<b>Batch Number</b>	CY170827
<b>Batch Quantity</b>	10Kg
<b>Manufacture Date</b>	Aug. 27, 2017
<b>Date of Certificate</b>	Aug. 29, 2017

ANALYSIS	SPECIFICATION	RESULTS
Appearance	Yellow fine powder	Complies
Odor	Characteristic	Complies
Taste	Characteristic	Complies
Extraction Solvent	Ethanol&Water	Complies
Partical Size	100%Through 80 Mesh	Complies
Assay (HPLC)	Icariin $\geq$ 98.0%	98.20%
Loss on Drying	$\leq$ 1.0%	0.18%
Ash content	$\leq$ 1.0%	0.07%
Bulk Density	50-60g/100ml	Complies
Heavy Metal	<10ppm	Complies
As	<2ppm	Complies
Pb	<2ppm	Complies
Solvent Residue	Eur.Pharm	Complies

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Pesticide Residue	Negative	Complies
<b>Microbiology</b>		
Total Plate Count	<1000cfu/g	Complies
Yeast & Moulds	<100cfu/g	Complies
E.Coli	Negative	Complies
Salmonella	Negative	Complies
Staphylococcus	Negative	Complies

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**Conclusion** Conform with specification

**Storage** Store in a cool and dry place, keep away from direct strong and heat.

**Shelf life** 2 years when properly stored

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**Quality Assurance Officer**

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**Quality Control**

7.

Distributor Name: Xian Yunpingjing Shengwu Keji Co. Ltd.

Chinese Name: 西安云屏景生物科技有限公司

批 量 (Batch Quantity) :100Kg

使用部位 (Used Part): Leaf

检测项目 Items	标准 Standards	检测结果 Results
性状 Description	浅棕黄色粉末 Light brown yellow Powder	符合规定 Qualified
含量 Assay	淫羊藿单甙(Icariin) ≥98.0% (HPLC)	98.16%
粒径 Mesh Size	80 目 100%pass 80mesh	符合规定 Qualified
灰份 Ash Content	≤5.0%	符合规定 Qualified
干燥失重 Loss on Drying	≤5.0%	符合规定 Qualified
重金属 Heavy Metal	≤10ppm	符合规定  Qualified
铅 Pb	≤2ppm	符合规定 Qualified
砷 As	≤2ppm	符合规定 Qualified
细菌总数 Total Plate Count	≤1000cfu/g	符合规定 Qualified
霉菌及酵母菌 Yeast&Mold	≤100cfu/g	符合规定 Qualified
大肠杆菌 E.coil	无 Negative	无 Negative
沙门氏菌 Salmonella	无 Negative	无 Negative

Figure 10 Image of Icariin COA sent by Xian Yunpingjing Co.

## Appendix 3

My initial letter of inquiry to my personal contacts:

您好，今天想拜托您的帮忙。我现在在西方一所大学学中文硕士。这所大学叫 [Blue Marble University](#)。这个中文课程比较独特。独特的原因是我个人中文语言水平已经满足了本大学的毕业要求，但因为学校要求学生一定要学好课程后才毕业他们就以我个人兴趣而改造了一个课程。所以中国传统文化、儒释道哲学以及中医学都包含在课程里面。

现在我在研究的就是中医学。那么因为这所大学也有它的科学和医学专业，它也有研究生正在做硕士药物研究。本校和学生就碰到一些问题。按照大学的校长 [Walter P. Drake](#)，中国的供应商是提供世界的约 80% 的草药、中药、药物、维生素等。但因为近历史的一些发生在中国的事情如食品安全的问题，想从中国买药物等的人是不放心的，怕质量的问题。本校的学医的学生一样在面临一个怎么得到正规的、质量好的、纯净的药物来做靠谱的实验。

由于我个人这半年都写了儒释道三张论文而有所好成绩，再加上我是长期住中国的，那么我的辅导员和校长提了想法让我一边在中国找到药物的供应商一边写中医的论文。通过考虑后我就同意了而今天是想您拜托帮助。现在详细转告您目前学校的的科学研究生的需求。

他们是找 [淫羊藿苷](#)，英文为 Icaritin，他们想做科学实验为了能做出医药级的软膏。本校研究生上 alibaba.com 网后发现都不是他们所要的 100% 纯的淫羊藿苷，再加上他们认为虽然有上千个卖家可是很像都是同一个厂家卖的。他们是有所不信，不敢买。那么校长和研究生都是希望我能够找到 100% 纯的淫羊藿苷。我也是希望能够在在中国找到一所正规、正当、靠谱的药物来源。

我是比大多数外国人和很多中国人知道中国传统文化的高价值归于一个字：“德”。现在发展的中国和未来发达的中国基础不是以经济而来的。发展的基础属于这个神州历代以来又出又吸引的圣人，高僧大德，良心高医，慈悲大器等等大德的德行而来的。如果中国人民处处放弃道德而拼命占便宜就等于浪费之前这些大人所积累提供给后代的福气。因为很多人，包括做药物的，不知及不用道德来经营就导致全球很多客户的不信任。我是拜托您如果您知道做正规正当的淫羊藿苷、中草药、中药等有关的良心供应商请您提供联系方式给我。若您有跟生产或买卖药物的朋友、熟人等也一样提供联系方式给我。

如果能够找到这个药物的来源，在早期时候需要的量不会很多。通过硕士研究实验之后如果药物是有效果的那么本大学的校长说未来需要的量会更多。

我个人希望对于此小的事情能够，最起码能够，增加这个世界的一点正气。如果能够把中国的一个良心药物企业联系上这所西方大学就有可能可以连上一个讲究美德的中西合作。

希望此事不带来任何不方便给您。所以如果您不方便就不用管这个事情。没有关系！如果您能帮个忙，那么也请您按照您个人的速度完成，不用急，反正您也一定知道，好东西也是急不到的！最后，如果您对这个事情有想法，看法，意见，建议，批评等等反馈请您发给我，很欢迎所以反馈！所有信息可以发给我的微信或电子邮箱。

感恩您！黄俊良 Alan W Abrams 电子邮箱地址：shangshanenzymes@outlook.com

## Image References

Figure 1 Map of China <http://www.chinakontor.de/chinamap2.jpg>, Edited with writing of place names by myself.

Figure 2 Personal photo.

Figure 3 Screenshot of 1688 chat. Captured and edited by myself.

Figure 4 Screenshot of 1688 chat. Captured and edited by myself.

Figure 5 Screenshot of 1688 chat. Captured and edited by myself.

Figure 6 Screenshot China's FDA website. <http://www.sda.gov.cn/WS01/CL1835/>, Captured and edited by myself.

Figure 7 Icariin 98 product image 1 from Sinoway. Personal image sent by contact.

Figure 8 Product image 2. Personal image sent by contact.

Figure 9 Taikomed contact business card. My personal image sent by contact.

Figure 10 Image of Icariin COA sent by Xian Yunpingjing Co.