Table1: The information of BASRMs

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| The name of  BASRMs | Main components | batch number | Chinese herbal medicinal ingredient number | Chemical monomeringredient number | Chemical composition of the whole drug proportion |
| 1. shensongyangxin capsule
2. kangerxin capsule
3. kangshuan capsule
4. naoluotong capsule
5. linaoxin capsule
6. qiliqiangxin capsule
7. tiandantongluo capsule
8. tongxinluo capsule
9. xinkening capsule
10. xinkeshu capsule
11. xinnaokang capsule
12. xuefuzhuyu capsule
13. Buchangnaoxintongcapsule
14. danqi tablet
15. fufangdanshen tablet（beijing）
16. fufangdanshen tablet（yunnan）
17. guanmaining  tablet
18. huoxuetongmai tablet
19. jingzhiguanxin tablet
20. naodesheng  tablet
21. naoxueshuan  tablet
22. xiaoshuantongluo  tablet
23. xinkeshu  tablet
24. yangxinshi  tablet
25. zhijiangning  tablet
26. Guanmaitong  tablet
27. Fufangdanshend pill
28. qishenyiqidi pill
29. Huatuozaizao pill
30. huoxin pill
31. renshenzaizao pill
32. xiaoshuanzaizao pill
33. xuefuzhuyu pill
34. lemai granules
35. tongmai granules
36. xuefuzhuyu granules
37. wenxin granules
38. tongmaiyangxin pill
39. dengzhanshengmai capsule
40. xinbao pill
41. zhuyutongmai capsule
42. hedan tablet
43. tongmaijiangzhi tablet
44. xuefuzhuyu tablet
45. naoan capsule
46. yixin pill
47. xueshuanxinmaining capsule
48. zhengxintai capsule
49. Danxiongtongmai granules
50. Fufangxueshuantong capsule
51. Danhong injection
52. Xiangdan injection
53. Shuxuetong injection
54. Xingnaojing injection
55. Mailuoning injection
56. Xuebijing injection
57. Shenmai injection
58. Shenfu injection
 | panax ginseng,Radix Ophiopogonis, etcPanax notoginseng, ginseng, etcAngelica tail, salvia miltiorrhiza, etcSalvia miltiorrhiza ,Ligusticum wallichii, etcSalvia miltiorrhiza ,Ligusticum wallichii, etcAstragalus membranaceus,Ligusticum wallichii, etcSalvia miltiorrhiza ,Ligusticum wallichii, etcpanax ginseng,leech, etcSalvia miltiorrhiza, panax notoginseng,etcSalviamiltiorrhiza, Pueraria etcRadix paeoniae rubra,Salvia miltiorrhiza,etcpeach kernel,flos carthami,etcradix astragali ,Radix Paeoniae Rubra,etcsalvia miltiorrhiza,Panax notoginsengsalvia miltiorrhiza,Panax notoginseng,etcsalvia miltiorrhiza,Panax notoginseng,etcsalvia miltiorrhiza,myrrh,etcCaulis Spatholobi , Semen Pruni Persicae, ,etcRadix paeoniae rubra,Ligusticum wallichii,etcPanax notoginseng,Ligusticum wallichii,etcflos carthami, Chinese Angelica,etcLigusticum wallichii,Salvia miltiorrhiza ,etcSalvia miltiorrhiza ,Pueraria,etcAstragalus membranaceus,panax ginseng,etcHawthorn,Radix Polygonum Multiflorum Preparata,etcwolfberry fruit,polygonum multiflorum,etcSalvia miltiorrhiza ,Panax notoginseng,etcAstragalus membranaceus,Salvia miltiorrhiza ,etcLigusticum wallichii,evodia rutaecarpa,etcpanax ginseng,glossy ganoderma,etcpanax ginseng,long-nosed pit viper,etcdaemonorops draco, radix paeoniae rubra,etcradix bupleuri,Chinese angelica ,etcSalvia miltiorrhiza ,Ligusticum wallichii, etcSalvia miltiorrhiza ,Ligusticum wallichii, etcradix bupleuri,Chinese angelica ,etcCodonopsis pilosula,rhizoma polygonati ,etcRehmannia glutinosa,Suberect Spatholobus Stem ,etcErigeron breviscapus,panax ginseng,etcflos daturae,panax ginseng,etcleech ,Semen Pruni Persicae,etcfolium nelumbinis,Salvia miltiorrhiza ,etcEquisetaceae Equisetum debile,Ligusticum wallichii, etcSemen Pruni Persicae,flos carthami,etcLigusticum wallichii, Chinese angelica ,etcradix ginseng Rubra,cattle horn,etcLigusticum wallichii ,Flos Sophorae ,etcAstragalus membranaceus,Pueraria,etcSalvia miltiorrhiza ,flos carthami,etcAstragalus membranaceus,Panax notoginseng,etcSalvia miltiorrhiza ,flos carthami,etcSalvia miltiorrhiza ,Lignum Dalbergiae Odoriferae,Leech,Earthwormmusk,borneol ,etcLonicera japonica,radix achyranthis bidentatae,etcflowers carthami ,Radix Paeoniae Rubra,etcradix ginseng Rubra ,Radix Ophiopogonisradix ginseng Rubra ,sliced aconite | 1108021201103111109011201011110002111202110922411093911060111020220120104B03020111186B890011212660620110477201202021203672110022012031220111101112463411060611061612010382001111123120509142611200011112011013528120413120114111110110926120821B107253201209052012050120121002201210062012040112080112010111090512091020120701111100212082113081025201204041111112211120912011100612071611107201110804 | 127123151110128510111623314175510115138734710553811731151149455115111068422244225 | 0003000000000000000000002000000000000000000000000000000000 | 00012.4%000000000000000000002.56%000000000000000000000000000000000 |

 Table2：the information of Nao Luo Tong capsule (NLTC) from ten different manufacturers

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| number | SFDA approval number（ State Food and Drug Administration） | Manufacturer | lot number | China drug electronic supervision code |
| 1 | Z44020002 | Guangzhou Baiyunshan Guanghua Pharmaceutical Co., Ltd. | T70074 | 81466630302529533891 |
| 2 | Z45021944 | Guangxi Huanbao Pharmaceutical Co., Ltd. | 20171002 | 6901247000614 |
| 3 | Z19993108 | Henan Furentang Pharmaceutical Co., Ltd. | 20171101 | 6938237700360 |
| 4 | Z44021943 | Dongguan Asia Pharmaceutical Co., Ltd. | 20160703 | 81347160004770435901 |
| 5 | Z44021297 | Zhaoqing Xinghu Pharmaceutical Co., Ltd. | 161202 | 6924604868399 |
| 6 | Z44023216 | Guangdong Yililu Custom Pharmaceutical Co., Ltd. | 160702 | 81590530028695552497 |
| 7 | Z22024825 | Tonghua Maoxiang Pharmaceutical Co., Ltd. | 170703 | 6938817515841 |
| 8 | Z19993103 | Jiaozuo Furuitang Pharmaceutical Co., Ltd. | 170807 | 6952608200778 |
| 9 | Z44022026 | Guangdong Bangmin Pharmaceutical Factory Co., Ltd. | 17116003 | 6922261201023 |
| 10 | Z20063131 | Diaoyutai Pharmaceutical Group Jilin Tian Compulsory Medicine Co., Ltd. | 160801086 | 6924653113785 |

Table3 heart tissue scoring criteria

|  |  |
| --- | --- |
| Standard | Score |
| The horizontal stripes are clear, the core is in the middle, and the interstitial is a small amount of blood vessels and connective tissue | 0 |
| Myocardial interstitial widening, there is light red dyed edema fluid | 1 |
| Small focal cardiomyocyte degeneration, necrosis, myocardial cell sarcoplasmic lysis or vacuolization, local inflammatory cell infiltration | 2 |
| The cytoplasm of the scattered cardiomyocytes is lightly stained, the striate is unclear, the cytoplasm is vacuolated, and even disintegrates. The cells are degenerated and necrotic under high magnification, and the local tissue cells and mononuclear macrophages increase | 3 |

Table4 Liver tissue scoring criteria

|  |  |
| --- | --- |
| Standard | Score |
| Hepatocytes in the central vein and its surroundings, hepatocytes are bulky, cytoplasm rich, eosinophilic | 0 |
| Hepatocyte volume increases, cytoplasm is loose and light, some have been necrotic, and there is small focal inflammatory cell infiltration | 1 |
| The volume increases, the cytoplasm is filled with tiny vacuoles, and some hepatocytes dissolve necrosis | 2 |
| The volume is increased, the cell boundary is unclear, and the cytoplasm is disintegrated into deep irritated red, irregularly shaped granules or small bodies | 3 |

Table5 Renal tissue scoring criteria

|  |  |
| --- | --- |
| Standard | Score |
| The glomerulus and surrounding renal tubules are clearly visible in the glomerular balloon lumen. The medullary collecting tube is a single-layered cubic epithelium with a cytoplasmic light-stained, nuclear round, centrally located. | 0 |
| The tubular epithelial cells increased in volume, the cytoplasm was red-stained, the lumen was irregular, and there were homogeneous red-dyed transparent casts, some of which were necrotic. The cytoplasm is loosely stained, the vacuole is changed, the cell boundary is unclear, the balloon cavity is dilated, and there is a foam-like liquid in the cyst cavity | 1 |
| The number of glomerular capillaries is reduced, the balloon cavity is dilated, there is foamy liquid in the cyst cavity, the epithelial hyperplasia of the balloon wall, degeneration and necrosis of renal tubular epithelial cells, vacuolization, unclear cell boundaries, red staining of cytoplasm, inflammatory cells Increased infiltration | 2 |
| The volume is increased, the cell boundary is unclear, and the cytoplasm is disintegrated into deep irritated red, irregularly shaped granules or small bodies | 3 |

Chemical Reference standards

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Product name | Cat.No | CAS No. | Molecular formula  | Molecular weight  | purity | Solubility |
| Tolperisone(hydrochride) | HY.B1139 | 3644-61-9 | C16H24CINO | 281.82 | 99.78% | DMSO≥36mg/ml |
| Methyl Hesperidin | 111580 | 11013-97-1 | C29H36O15 | 624.59 | HPLC≥98% | Methanol, ethanol |
| Vitamin B6 | SV8110 | 58-56-0 | C8H12NO3CI | 205.64 | HPLC≥98% | water |

Figure 1.



**Composition analysis of NLTC.** (A) mixed standards (methyl hesperidin and tolperisone hydrochloride) was detected at 283 nm (upper panel) and 261 nm (lower panel), respectively. (B) Methanol solution of NLTC was detected at wavelength of 261 nm. (C) Methanol solution of NLTC was detected at wavelength of 283 nm. (D) Vitamin B6 standard (upper panel) and Methanol solution of NLTC (lower panel) were detected at wavelength of 290 nm.