

Supplementary Materials: Screening of Crude Drugs Used in Japanese Kampo Formulas for Autophagy-Mediated Cell Survival of the Human Hepatocellular Carcinoma Cell Line

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Table S1. List of crude drugs.

Drug No.	Japanese Name	English Name	Scientific Name	Medicinal Part
1	Akyo	Donkey Glue	<i>Equus asinus</i>	glue
2	Ireisen	Clematis Root	<i>Clematis chinensis</i> , <i>C. mandshurica</i> , <i>C. hexapetala</i>	root with rhizome
3	Inchinko	Artemisia Capillaris Flower	<i>Artemisia capillaris</i>	capitulum
4	Uikyo	Fennel	<i>Foeniculum vulgare</i>	fruit
5	Uzu ^{a)}	Aconite Root	<i>Aconitum carmichaeli</i> , <i>A. japonicum</i>	tuberous root (mother root)
6	Uyaku	Lindera Root	<i>Lindera strychnifolia</i>	root
7	Engosaku	Corydalis Tuber	<i>Corydalis turtschaninovii</i>	tuber
8	Ogi	Astragalus Root	<i>Astragalus membranaceus</i> , <i>A. mongholicus</i>	root
9	Ogon	Scutellaria Root	<i>Scutellaria baicalensis</i>	root
10	Obaku	Phellodendron Bark	<i>Phellodendron amurense</i> , <i>P. chinense</i>	bark
11	Oren	Coptis Rhizome	<i>Coptis japonica</i> , <i>C. chinensis</i> , <i>C. deltoidea</i> , <i>C. teeta</i>	rhizome
12	Onji	Polygala Root	<i>Polygala tenuifolia</i>	root or root bark
13	Gaiyo	Artemisia Leaf	<i>Artemisia princeps</i> , <i>A. montana</i>	leaf and twig
14	Kashi	Myrobalan Fruit	<i>Terminalia chebula</i>	fruit
15	Kashu	Polygonum Root	<i>Polygonum multiflorum</i>	root
16	Gajutsu	Zedoary	<i>Curcuma zedoaria</i>	rhizome
17	Kakko	Pogostemon Herb	<i>Pogostemon cablin</i>	aerial part
18	Kakkon	Pueraria Root	<i>Pueraria lobata</i>	root
19	Kasseki	Aluminum Silicate Hydrate with Silicon Dioxide	—	—
20	Karokon	Trichosanthes Root	<i>Trichosanthes kirilowii</i> , <i>T. kirilowii</i> var. <i>japonica</i> , <i>T. bracteata</i>	root

21	Karonin	Trichosanthes Seed	<i>Trichosanthes kirilowii</i> , <i>T. kirilowii</i> var. <i>japonica</i> , <i>T. bracteata</i>	seed
22	Kankyo ^{b)}	Processed Ginger	<i>Zingiber officinale</i>	rhizome
23	Kanzo	Glycyrrhiza	<i>Glycyrrhiza uralensis</i> , <i>G. glabra</i>	root and stolon
24	Kikyo	Platycodon Root	<i>Platycodon grandiflorum</i>	root
25	Kikuka	Chrysanthemum Flower	<i>Chrysanthemum morifolium</i> , <i>C. indicum</i>	capitulum
26	Kijitsu	Immature Orange	<i>Citrus aurantium</i> var. <i>daidai</i> , <i>C. aurantium</i> , <i>C. natsudaidai</i>	fruit
27	Kyokatsu	Notopterygium	<i>Notopterygium incisum</i> , <i>N. forbesii</i>	rhizome and root
28	Kyonin	Apricot Kernel	<i>Prunus armeniaca</i> , <i>P. armeniaca</i> var. <i>ansu</i> , <i>P. sibirica</i>	seed
29	Kinginka	Lonicera Flower	<i>Lonicera japonica</i>	flower bud
30	Kukoshi	Lycium Fruit	<i>Lycium chinense</i> , <i>L. barbarum</i>	fruit
31	Kujin	Sophora Root	<i>Sophora flavescens</i>	root
32	Keigai	Schizonepeta Spike	<i>Schizonepeta tenuifolia</i>	spike
33	Keihi	Cinnamon Bark	<i>Cinnamomum cassia</i>	bark
34	Kengoshi	Pharbitis Seed	<i>Pharbitis nil</i>	seed
35	Genjin	Scrophularia Root	<i>Scrophularia ningpoensis</i> , <i>S. buergeriana</i>	root
36	Koka	Safflower	<i>Carthamus tinctorius</i>	tubulous flower
37	Kobushi	Cyperus Rhizome	<i>Cyperus rotundus</i>	rhizome
38	Koboku	Magnolia Bark	<i>Magnolia obovata</i> , <i>M. officinalis</i> , <i>M. officinalis</i> var. <i>biloba</i>	bark
39	Goshitsu	Achyranthes Root	<i>Achyranthes fauriei</i> , <i>A. bidentata</i>	root
40	Goshuyu	Euodia Fruit	<i>Euodia ruticarpa</i> , <i>E. officinalis</i> , <i>E. bodinieri</i>	fruit
41	Goboshi	Burdock Fruit	<i>Arctium lappa</i>	fruit
42	Gomishi	Schisandra Fruit	<i>Schisandra chinensis</i>	fruit
43	Saiko	Bupleurum Root	<i>Bupleurum falcatum</i>	root
44	Saishin	Asiasarum Root	<i>Asiasarum sieboldii</i> , <i>A. heterotropoides</i> var. <i>mandshuricum</i>	root with rhizome
45	Sankirai	Smilax Rhizome	<i>Smilax glabra</i>	tuber
46	Sanzashi	Crataegus Fruit	<i>Crataegus cuneata</i> , <i>C. pinnatifida</i> var. <i>major</i>	pseudocarp
47	Sanshishi	Gardenia Fruit	<i>Gardenia jasminoides</i>	fruit
48	Sanshuyu	Cornus Fruit	<i>Cornus officinalis</i>	pulp of pseudocarp
49	Sansho	Japanese Zanthoxylum Peel	<i>Zanthoxylum piperitum</i>	pericarp
50	Sansonin	Jujube Seed	<i>Zizyphus jujuba</i> var. <i>spinosa</i>	seed
51	San'yaku	Dioscorea Rhizome	<i>Dioscorea japonica</i> , <i>D. batatas</i>	rhizome
52	Jio ^{c)}	Rehmannia Root	<i>Rehmannia glutinosa</i> var. <i>purpurea</i> , <i>R. glutinosa</i>	root
53	Jukujo ^{c)}	Rehmannia Root	<i>Rehmannia glutinosa</i> var. <i>purpurea</i> , <i>R. glutinosa</i>	root

54	Shion	Aster Root	<i>Aster tataricus</i>	root and rhizome
55	Jikoppi	Lycium Bark	<i>Lycium chinense</i> , <i>L. barbarum</i>	root bark
56	Shikon	Lithospermum Root	<i>Lithospermum erythrorhizon</i>	root
57	Shisoshi	Perilla Fruit	<i>Perilla frutescens</i> var. <i>crispa</i>	fruit
58	Shitsurishi	Tribulus Fruit	<i>Tribulus terrestris</i>	fruit
59	Shitei	Persimmon Calyx	<i>Diospyros kaki</i>	calyx
60	Shakuyaku	Peony Root	<i>Paeonia lactiflora</i>	root
61	Jashoshi	Cnidium Monnieri Fruit	<i>Cnidium monnieri</i>	fruit
62	Shajin	Adenophora Root	<i>Adenophora tetraphylla</i> , <i>A. stricta</i> , <i>A. triphylla</i> , <i>A. hunanensis</i>	root
63	Shazenshi	Plantago Seed	<i>Plantago asiatica</i>	seed
64	Shazenso	Plantago Herb	<i>Plantago asiatica</i>	entire plant
65	Shukusha	Amomum Seed	<i>Amomum xanthioides</i>	seed mass
66	Shokyo ^{b)}	Ginger	<i>Zingiber officinale</i>	rhizome
67	Shobaku	Wheat	<i>Triticum aestivum</i>	fruit
68	Shoma	Cimicifuga Rhizome	<i>Cimicifuga simplex</i> , <i>C. dahurica</i> , <i>C. foetida</i> , <i>C. heracleifolia</i>	rhizome
69	Shin'i	Magnolia Flower	<i>Magnolia salicifolia</i> , <i>M. kobus</i> , <i>M. biondii</i> , <i>M. sprengeri</i> , <i>M. heptapeta</i>	flower bud
70	Sekko	Gypsum	—	—
71	Senkyu	Cnidium Rhizome	<i>Cnidium officinale</i>	rhizome
72	Sentai	Cicada Slough	<i>Cryptotympana atrata</i> , <i>Platylomia pيلي</i> , <i>Oncotympana maculaticollis</i> , <i>Tanna chekiangensis</i> , <i>Graptopsaltria tienta</i> , <i>Lyristes pekinensis</i> , <i>L. atrofasciatus</i> , <i>Meimuna mongolica</i> , <i>Leptosemia sakaii</i> , <i>Platypleura kaempferi</i> or allied animals	cast-off shell
73	Sojutsu	Atractylodes Lancea Rhizome	<i>Atractylodes lancea</i> , <i>A. chinensis</i>	rhizome
74	Sohakuhi	Mulberry Bark	<i>Morus alba</i>	root bark
75	Soboku	Sappan Wood	<i>Caesalpinia sappan</i>	duramen
76	Soyo	Perilla Herb	<i>Perilla frutescens</i> var. <i>crispa</i>	leaf and tip of branch
77	Daio	Rhubarb	<i>Rheum palmatum</i> , <i>R. tanguticum</i> , <i>R. officinale</i> , <i>R. coreanum</i>	rhizome
78	Daihukuhi	Areca Pericarp	<i>Areca catechu</i> , <i>A. dicksonii</i>	pericarp
79	Taiso	Jujube	<i>Zizyphus jujuba</i> var. <i>inermis</i>	fruit
80	Takusha	Alisma Tuber	<i>Alisma orientale</i>	tuber
81	Chikujo	Bamboo Culm	<i>Bambusa textilis</i> , <i>B. pervariabilis</i> , <i>B. beecheyana</i> , <i>B. tuldooides</i> , <i>Phyllostachys nigra</i> var. <i>henonis</i> , <i>P. bambusoides</i>	inner layer of culm

82	Chimo	Anemarrhena Rhizome	<i>Anemarrhena asphodeloides</i>	rhizome
83	Choji	Clove	<i>Syzygium aromaticum</i>	flower bud
84	Chotoko	Uncaria Hook	<i>Uncaria rhynchophylla</i> , <i>U. sinensis</i> , <i>U. macrophylla</i>	hook
85	Chorei	Polyporus Sclerotium	<i>Polyporus umbellatus</i>	sclerotium
86	Chimpi	Citrus Unshiu Peel	<i>Citrus unshiu</i> , <i>C. reticulata</i>	pericarp
87	Tennansho	Arisaema Tuber	<i>Arisaema heterophyllum</i> , <i>A. erubescens</i> , <i>A. amurense</i>	tuber
88	Temma	Gastrodia Tuber	<i>Gastrodia elata</i>	tuber
89	Temmondo	Asparagus Root	<i>Asparagus cochinchinensis</i>	root
90	Togashi	Benincasa Seed	<i>Benincasa cerifera</i> , <i>B. cerifera</i> forma <i>emarginata</i>	seed
91	Toki	Japanese Angelica Root	<i>Angelica acutiloba</i> , <i>A. acutiloba</i> var. <i>sugiyamae</i>	root
92	Todokukatsu	Angelica Pubescens Root	<i>Angelica pubescens</i> , <i>A. biserrata</i>	root
93	Tonin	Peach Kernel	<i>Prunus persica</i> , <i>P. persica</i> var. <i>dauriana</i>	seed
94	Dokukatsu	Aralia Rhizome	<i>Aralia cordata</i>	rhizome
95	Tochu	Eucommia Bark	<i>Eucommia ulmoides</i>	bark
96	Ninjin	Ginseng	<i>Panax ginseng</i>	root
97	Baimo	Fritillaria Bulb	<i>Fritillaria verticillata</i> var. <i>thunbergii</i>	bulb
98	Bakuga	Malt	<i>Hordeum vulgare</i>	caryopsis
99	Bakumondo	Ophiopogon Root	<i>Ophiopogon japonicus</i>	enlarged part of root
100	Hakka	Mentha Herb	<i>Mentha arvensis</i> var. <i>piperascens</i>	aerial part
101	Hange	Pinellia Tuber	<i>Pinellia ternata</i>	tuber
102	Hishinomi	Water Chestnut	<i>Trapa japonica</i> , <i>T. incisa</i> , <i>T. japonica</i> var. <i>rubeola</i>	fruit
103	Byakugo	Lilium Bulb	<i>Lilium lancifolium</i> , <i>L. brownii</i> var. <i>colchesteri</i> , <i>L. brownie</i> , <i>L. pumilum</i>	scaly leaf
104	Byakushi	Angelica Dahurica Root	<i>Angelica dahurica</i>	root
105	Byakujutsu	Atractylodes Rhizome	<i>Atractylodes japonica</i> , <i>A. macrocephala</i>	rhizome
106	Biwayo	Loquat Leaf	<i>Eriobotrya japonica</i>	leaf
107	Binroji	Areca	<i>Areca catechu</i>	seed
108	Bukuryo	Poria Sclerotium	<i>Wolfiporia cocos</i>	sclerotium
109	Boi	Sinomenium Stem and Rhizome	<i>Sinomenium acutum</i>	stem and rhizome
110	Bokon	Imperata Rhizome	<i>Imperata cylindrica</i>	rhizome
111	Bofu	Saposhnikovia Root and Rhizome	<i>Saposhnikovia divaricata</i>	root and rhizome

112	Hobushi ^{a)}	Processed Aconite Root	<i>Aconitum carmichaeli</i> , <i>A. japonicum</i>	tuberous root (daughter root)
113	Botampi	Moutan Bark	<i>Paeonia suffruticosa</i>	root bark
114	Mao	Ephedra Herb	<i>Ephedra sinica</i> , <i>E. intermedia</i> , <i>E. equisetina</i>	aerial stem
115	Mashinin	Hemp Fruit	<i>Cannabis sativa</i>	fruit
116	Mankeishi	Shrub Chaste Tree Fruit	<i>Vitex rotundifolia</i> , <i>V. trifolia</i>	fruit
117	Mokutsu	Akebia Stem	<i>Akebia quinata</i> , <i>A. trifoliata</i>	stem
118	Mokko	Saussurea Root	<i>Saussurea lappa</i>	root
119	Yakuchi	Bitter Cardamon	<i>Alpinia oxyphylla</i>	fruit
120	Yakumoso	Leonurus Herb	<i>Leonurus japonicus</i> , <i>L. sibiricus</i>	aerial part
121	Yokuinin	Coix Seed	<i>Coix lachryma-jobi</i> var. <i>mayuen</i>	seed
122	Ryugan'niku	Longan Aril	<i>Euphoria longana</i>	aril
123	Ryutan	Japanese Gentian	<i>Gentiana scabra</i> , <i>G. manshurica</i> , <i>G. triflora</i>	root and rhizome
124	Ryokyo	Alpinia Officinarum Rhizome	<i>Alpinia officinarum</i>	rhizome
125	Rengyo	Forsythia Fruit	<i>Forsythia suspensa</i>	fruit
126	Renniku	Nelumbo Seed	<i>Nelumbo nucifera</i>	seed
127	Tanjin	Salvia Miltiorrhiza Root	<i>Salvia miltiorrhiza</i>	root
128	Hanshiren	Barbated Skullcup Herb	<i>Scutellaria barbata</i>	entire plant
129	Byakkajazetsuso	Oldenlandia diffusa	<i>Hedyotis diffusa</i> var. <i>longipe</i>	entire plant
130	Hikai	Dioscorea	<i>Dioscorea tokoro</i>	rhizome

a,b,c) specific processing is different

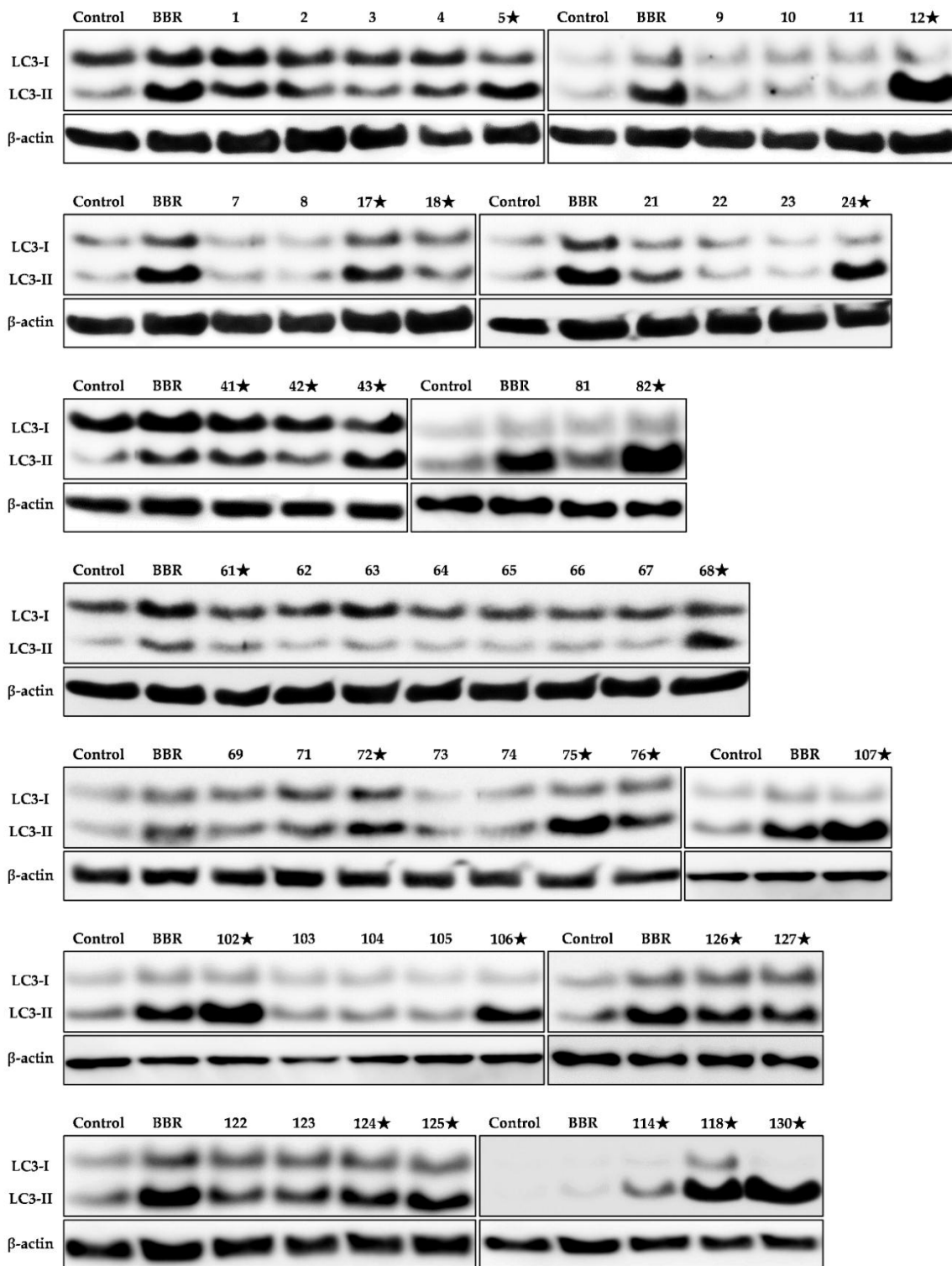


Figure S1. The effect of crude extracts including 24 selected crude drugs on LC3-II protein. The 24 selected crude drugs are shown in the black star (★). HepG2 cells were treated with 20 µg/mL of each crude extract for 24 h, and the LC3-II expression levels were determined using Western blotting. The data shown are representative of three independent treatments with similar results. Notes: BBR; positive control (BBR 50 µM), 1–130; crude drug number (see Table S1).