

Mài Mén Dōng Tāng (Ophiopogonis Decoction)

麥門冬湯 麦门冬汤

Pinyin Name: *Mai Men Dong Tang*

Literal Name: Ophiopogonis Decoction

Alternate Name: Ophiopogon Combination

Original Source: *Jin Gui Yao Lue* (Essentials from the Golden Cabinet) by Zhang Zhong-Jing in the Eastern Han Dynasty

COMPOSITION

<i>Mai Dong</i> (Radix Ophiopogonis)	7 cups [60-70g]
<i>Ban Xia</i> (Rhizoma Pinelliae)	1 cup [10-18g]
<i>Ren Shen</i> (Radix et Rhizoma Ginseng)	9g [6-9g]
<i>Geng Mi</i> (Semen Oryzae)	0.3 cup [6g]
<i>Da Zao</i> (Fructus Jujubae)	12 pieces [3-4 pieces]
<i>Gan Cao</i> (Radix et Rhizoma Glycyrrhizae)	6g [6g]

DOSAGE / PREPARATION / ADMINISTRATION

The source text states to cook the ingredients with 12 cups [2,400 mL] of water until the liquid is reduced to 6 cups [1,200 mL]. Take 1 cup [200 mL] of the warm, strained decoction three times during the day and once at night. Today, this formula may be prepared as a decoction with the doses suggested in brackets.

CHINESE THERAPEUTIC ACTIONS

1. Nourishes Lung and Stomach yin
2. Redirects reversed flow of qi and harmonizes the middle *jiao*

CLINICAL MANIFESTATIONS

1. Lung yin deficiency: coughing with difficult-to-expectorate sputum, coughing or spitting of saliva, dry mouth and throat, feelings of heat in the palms and soles, a red tongue body with scanty tongue coating, and a deficient, rapid pulse.

2. Stomach yin deficiency: nausea, vomiting, thirst, dry throat, a red tongue body with scanty tongue coating, and a deficient, rapid pulse.

CLINICAL APPLICATIONS

Nausea, vomiting, morning sickness, dry mouth and throat, stomach cramps, gastritis, peptic ulcer disease, chronic atrophic gastritis, bronchitis, cough, cough from interstitial pneumonia, postinfectious cough, and Sjogren's syndrome.

EXPLANATION

Mai Men Dong Tang (Ophiopogonis Decoction) is designed to treat Lung and/or Stomach yin deficiencies with deficiency fire rising. The deficiency fire disrupts normal flow of Lung qi, and causes it to move upward instead of downward, which produces cough. Moreover, deficiency fire damages body fluids, and as a result, patients experience sputum that cannot be easily expectorated, thirst

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Diagnosis	Signs and Symptoms	Treatment	Herbs
Lung and/or Stomach yin deficiencies	<ul style="list-style-type: none"> • Coughing: reversed flow of Lung qi • Nausea and vomiting: reversed flow of Stomach qi • Difficult-to-expectorate sputum, thirst, dry mouth and throat, and sensations of heat in the palms and soles: deficiency fire • Red tongue with scanty tongue coating, and a deficient, rapid pulse: yin-deficient fire 	<ul style="list-style-type: none"> • Nourishes Lung and Stomach yin • Corrects reversed flow of qi and harmonizes the middle <i>jiao</i> 	<ul style="list-style-type: none"> • <i>Mai Dong</i> (Radix Ophiopogonis) nourishes yin and clears deficiency fire. • <i>Ban Xia</i> (Rhizoma Pinelliae) corrects the reversed flow of qi and dissolves phlegm. • <i>Ren Shen</i> (Radix et Rhizoma Ginseng) tonifies qi and generates body fluids. • <i>Geng Mi</i> (Semen Oryzae), <i>Da Zao</i> (Fructus Jujubae), and <i>Gan Cao</i> (Radix et Rhizoma Glycyrrhizae) nourish the Spleen and Stomach.

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and dry mouth and throat. Stomach yin deficiency may lead to reversed flow of qi upwards, causing nausea and vomiting. Sensations of heat in the palms and soles, a red tongue with a scanty tongue coating, and deficient, rapid pulse are typical signs of yin-deficient fire.

This formula contains *Mai Dong* (Radix Ophiopogonis) to nourish Lung and Stomach yin and clear deficiency fire. *Ban Xia* (Rhizoma Pinelliae) corrects the reversed flow of qi and dissolves phlegm. These two herbs also provide mutual checks and balances, as *Mai Dong* (Radix Ophiopogonis) controls the drying nature of *Ban Xia* (Rhizoma Pinelliae), while *Ban Xia* (Rhizoma Pinelliae) checks the cloying nature of *Mai Dong* (Radix Ophiopogonis). *Ren Shen* (Radix et Rhizoma Ginseng) combines with *Mai Dong* (Radix Ophiopogonis) to tonify the qi and generate body fluids. *Geng Mi* (Semen Oryzae), *Da Zao* (Fructus Jujubae), and *Gan Cao* (Radix et Rhizoma Glycyrrhizae) nourish the Spleen and Stomach and tonify *zhong* (central) *qi*.

MODIFICATIONS

- With tidal fever, add *Yin Chai Hu* (Radix Stellariae) and *Di Gu Pi* (Cortex Lycii).
- When there is severe damage to the body fluids, add *Bei Sha Shen* (Radix Glehniae) and *Yu Zhu* (Rhizoma Polygonati Odorati).
- With thirst and irritability, add *Shi Gao* (Gypsum Fibrosum) and *Zhi Mu* (Rhizoma Anemarrhenae).
- With burning epigastric pain or dry heaves caused by Stomach yin deficiency, add *Bai He* (Bulbus Lilii).

CAUTIONS / CONTRAINDICATIONS

Mai Men Dong Tang is not suitable for atrophy of the Lung characterized by deficiency and cold.¹

PHARMACOLOGICAL EFFECTS

1. **Antitussive:** According to various *in vitro* studies, administration of *Mai Men Dong Tang* was associated with antitussive effects to stop cough.² The mechanism of this antitussive effect was attributed in part to *Gan Cao* (Radix et Rhizoma Glycyrrhizae), which contain a potent antitussive compound, liquilitin apioside.³
2. **Respiratory:** *Mai Men Dong Tang* has been shown to have mucoactive effect on the production or composition of airway secretions, resulting in increased effectiveness of mucociliary clearance. In addition, *Mai Men Dong Tang* also reduced airway hyper-responsiveness by inhibiting the release of acetylcholine from vagus nerve terminals. Clinically, it has been used with success to treat bronchitis and pharyngitis accompanying severe dry cough.^{4,5}
3. **Hypoglycemic:** Administration of a water extract of *Mai Men Dong Tang* at 500 mg/kg given via intraperitoneal injection was shown to decrease blood glucose in mice with hereditary diabetes mellitus.⁶
4. **Beta-adrenergic:** According to a study in canines, administration of *Mai Men Dong Tang* potentiated beta-adrenergic functioning in airway smooth muscle, which reflects the efficacy of this formula to treat asthma and airway hyper-responsiveness.⁷

CLINICAL STUDIES AND RESEARCH

1. **Nausea and vomiting:** One study reported 92.8% effectiveness using modified *Mai Men Dong Tang* to treat stubborn nausea and vomiting characterized by Stomach yin deficiency. The duration of treatment ranged from 3 to 9 packs of herbs. The herbal formula contained *Mai Dong* (Radix Ophiopogonis), *Ban Xia* (Rhizoma Pinelliae), *Ren Shen* (Radix et Rhizoma Ginseng), *Zhi Gan Cao* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle), *Geng Mi* (Semen Oryzae), *Da Zao* (Fructus Jujubae), *Zhu Ru* (Caulis Bambusae in Taenia), *Shi Hu* (Caulis Dendrobii), and *Pi Pa Ye* (Folium Eriobotryae). Of 42 patients, the study reported complete recovery in 20 cases, significant improvement in 15 cases, moderate improvement in 4 cases, and no effect in 3 cases.⁸
2. **Morning sickness:** One study reported marked effectiveness in the treatment of nausea and vomiting in 20 women using *Mai Men Dong Tang* plus *Gou Qi Zi* (Fructus Lycii), *Zhu Ru* (Caulis Bambusae in Taenia), and *Sheng Jiang* (Rhizoma Zingiberis Recens). The herbs were given in decoction daily.⁹
3. **Dry mouth and throat:** Administration of *Mai Men Dong Tang* was associated with marked success in 258 patients with dry mouth and throat due to various causes (radiation treatment, pharyngitis, and others). The formula was given in extract form, at 9g per day, for 1 and 4 weeks.¹⁰
4. **Stomach cramps:** One study reported success using *Mai Men Dong Tang* to treat gastrointestinal cramps with nausea, vomiting, poor appetite, and other symptoms. A total of 3 packs of herbs were given in decoction.¹¹
5. **Gastritis:** One study reported 78.57% effectiveness using modified *Mai Men Dong Tang* to treat 70 cases of chronic gastritis. Modifications to the base formula included the addition of *Si Ni San* (Frigid Extremities Powder) for Liver and Stomach disharmony; *Ban Xia Xie Xin Tang* (Pinellia Decoction to Drain the Epigastrium) for the presence of both cold and heat; *Li Zhong Tang* (Regulate the Middle Decoction) or *Xiao Jian Zhong Tang* (Minor Construct the Middle Decoction) for deficiency and cold of the Spleen and Stomach; and modifications of *Mai Men Dong Tang* for Stomach yin deficiency. The treatment

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protocol was to administer one pack of herbs in decoction daily, for each 1 month course of treatment.¹²

6. **Chronic atrophic gastritis:** In one study, 30 patients with chronic atrophic gastritis were treated with good results using *Mai Men Dong Tang*. Clinical results include relief of symptoms, such as bloating, distention, and abdominal pain.¹³
7. **Peptic ulcer disease:** One study reported a 95% effectiveness using modified *Mai Men Dong Tang* to treat 19 patients with peptic ulcer with a history of 1-5 years of illness. Most patients reported relief of symptoms within an average of 9 packs of herbs.¹⁴
8. **Bronchitis:** According to one study, use of 9 grams per day of extract of *Mai Men Dong Tang* was associated with marked improvement for treatment of chronic bronchitis in 20 patients (5 males and 15 females). The study noted that 17 of 20 patients had a dry non-productive cough.¹⁵
9. **Cough:** According to one study, administration of *Mai Men Dong Tang* was associated with marked antitussive effects in both asthmatic and non-asthmatic patients. *Mai Men Dong Tang* was found to significantly improve the cough threshold value in 76% of patients with bronchial asthma, and in 82% without bronchial asthma. The study stated that *Mai Men Dong Tang* is an effective therapeutic preparation for cough hypersensitivity accompanying chronic diseases involving coughing, especially in cases of severe allergic inflammation.¹⁶
10. **Cough from interstitial pneumonia:** According to one case report, use of *Mai Men Dong Tang* was associated with dramatic relief of intractable dry cough within 10 days in a 50 year-old woman with progressive systemic sclerosis accompanied by interstitial pneumonia. Prior to herbal treatment, she was given a variety of antitussive agents over a one year period without success. The researchers stated that *Mai Men Dong Tang* may be a good antitussive agent for interstitial pneumonia associated with a dry cough that is resistant to other antitussives.¹⁷
11. **Postinfectious cough:** *Mai Men Dong Tang* was shown in many studies to be effective in the management of postinfectious cough.^{18,19} According to one case study, use of *Mai Men Dong Tang* was associated with marked effects to suppress cough in a 63-year-old woman with interstitial lung disease and increased sensitivity of the cough reflex. Clinical improvements included subjective relief of cough, decreased cough scores, improved quality of life scores, and improved sensitivity of the cough reflex measured by inhalation of capsaicin.²⁰
12. **Sjogren's syndrome:** According to one reports, *Mai Men Dong Tang* was used successfully to treat Sjogren's syndrome, a chronic inflammatory autoimmune disease characterized by dryness of mucous membranes. In this

report, *Mai Men Dong Tang* significantly increased salivary secretion in 38 patients with Sjogren's syndrome.²¹

HERB-DRUG INTERACTION

- **Enalapril-induced cough:** Administration of *Mai Men Dong Tang* was found to be effective in treating 5 patients with dry cough induced by use of enalapril for 12 to 65 weeks. The treatment protocol was to administer the herbs in extract form, 9 grams per day in three equally-divided doses. Of 5 patients, the study reported significant improvement in 2 cases, moderate improvement in 2 cases, and no benefit in 1 case. Most patients responded within 2 to 4 days of herbal therapy, with no side effects noted.²² The mechanisms were attributed to antitussive and mucoactive effects of *Mai Men Dong Tang*.²³
- **Capsaicin-induced cough:** According to one study of 21 bronchial asthmatics with cough sensitivity to capsaicin, administration of 9 g/day of *Mai Men Dong Tang* significantly increased the cough threshold. The study noted that *Mai Men Dong Tang* was most effective in women, in asthmatic subjects with severe airway inflammation, and in patients having a disease duration of less than 1 year.²⁴

TOXICOLOGY

Administration of *Mai Men Dong Tang* was associated with one case report of Stevens-Johnson syndrome. According to the report, after ingestion of this herbal formula, a 66-year-old female started to develop bullous and eroded lesions on the skin of her entire body and the mucous membranes of her oral cavity, conjunctiva, and cornea. A challenge test was done with a one hundredth dose, and it was positive at 72 hours. She was treated with methylprednisolone for a total of 5 days.²⁵

RELATED FORMULA

Mài Mén Yǎng Yīn Tāng

(Ophiopogonis Decoction to Nourish the Yin)

麥門養陰湯

麦门养阴汤

Pinyin Name: *Mai Men Yang Yin Tang*

Literal Name: Ophiopogonis Decoction to Nourish the Yin

Original Source: *Guang An Men Yi Yuan* (Guang An Men Hospital) in 1990

Mai Dong (Radix Ophiopogonis)

Tian Dong (Radix Asparagi)

Bei Sha Shen (Radix Glehniae)

Nan Sha Shen (Radix Adenophorae)

Bai He (Bulbus Lilii)

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Xi Yang Shen (Radix Panacis Quinquefolii)

Zhi Gan Cao (Radix et Rhizoma Glycyrrhizae)

Preparata cum Melle)

Geng Mi (Semen Oryzae)

Da Zao (Fructus Jujubae)

Mai Men Yang Yin Tang (Ophiopogonis Decoction to Nourish the Yin) primarily treats chronic consumptive disorders characterized by the presence of dryness and deficiencies of yin and body fluids. Clinical manifestations include thirst, dry mouth, non-productive cough, constipation, dry stools, and general presentation of dryness in chronic consumptive disorders affecting the Lung and Stomach. This formula contains herbs that nourish Lung and Stomach yin, replenish body fluids, and harmonize the middle *jiao*.

AUTHORS' COMMENTS

Lung and/or Stomach yin deficiency(ies) with deficiency fire rising is a delicate condition that needs to be treated carefully. Strong heat-clearing herbs such as *Huang Lian* (Rhizoma Coptidis) and *Huang Qin* (Radix Scutellariae) are not appropriate, as they will consume yin and worsen the condition. Therefore, herbs such as *Mai Dong* (Radix Ophiopogonis) are used since they have gentle effects to nourish yin and clear deficiency fire. Because *Mai Dong* (Radix Ophiopogonis) is mild in potency, a large amount (60-70g) is needed or the effects will not be realized.

Mai Men Dong Tang and *Qing Zao Jiu Fei Tang* (Eliminate Dryness and Rescue the Lungs Decoction) both treat cough, dyspnea, and asthma caused by Lung yin deficiency.

- *Mai Men Dong Tang* moistens the Lung and replenishes Stomach yin to clear interior yin deficiency with heat.
- *Qing Zao Jiu Fei Tang* treats cough and Lung qi reversal caused by warm-dryness attacking from the exterior and injuring Lung yin.²⁶

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