

Topic: Cystic Fibrosis





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06/26/2012

Article Count - 48

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Cumulative Knowledge is determined by ascribing a numerical value to all the articles indexed on our database. The GreenMedInfo.com algorithm appraises a study's overall evidentiary power and quality by generating a numerical value. This "Cumulative Knowledge" score incorporates variables such as study type, with the following types listed in descending order by their power: Meta-Analysis, Human Study, Human: Case Study, Animal:Transgenic, Animal, In Vitro, Review, and Commentary. The cumulative total will provide you an idea about the depth and quality of information that this topic has accumulated on our site. For instance, if you downloaded a document on "**Cancers: All**", you might see "**Curcumin**" with a **Cumulative Knowledge** of **677** and **Resveratrol** with a **Cumulative Knowledge** of **175**. This does not mean that **Curcumin** is better, but just that we have gathered more quality research on the Substance **Curcumin**. [Click here to read a more in depth explanation](#)

How are Topics and Articles Sorted in this PDF?

Articles in this document are placed within their respective **Topic** category. If you download a document on the Disease "**Cancers: All**" and are interested in all articles pertaining to the Substance "**Curcumin**" with regard to "**Cancers: All**", you will find them under the "**Curcumin**" sub-section underneath the **Cumulative Knowledge** section. **Topics** are sorted based on their **Cumulative Knowledge** in relation to the main topic of the download. In the previous example, it would be in relation to "**Cancers: All**". Articles are then sorted based on the articles **Published Date**. **Articles** are sorted in a descending fashion, which means that the most recent articles are displayed first. **Articles** may appear more than once in this document. For each **Topic** that an **Article** contains, it will be displayed in that sub-section. For example, if an **Article** contains the **Substances "Pterostilbene"** and "**Resveratrol**", the article will be displayed under each **Topic**.

Quick Summary: 48 Substances

Name	Cumulative Knowledge	Article Count
Omega-3 Fatty Acids	32	4
Vitamin E	30	3
Glutathione	21	3
Antioxidant formulas	20	2
Arginine	20	2
Coenzyme Q10	20	2
DHA (Docosahexaenoic Acid)	20	3
Lactobacillus rhamnosus GG	20	2
NAC (N-acetyl-L-cysteine)	20	2
Salt	20	2

Taurine	20	2
Ursodeoxycholic acid	20	2
Whey	20	2
Zinc	20	2
beta-Carotene	20	2
Lactoferrin	11	2
Vitamin C	11	2
Carotenoids	10	1
Choline	10	1
EPA (Eicosapentaenoic Acid)	10	1
Folic Acid	10	1
Gamma-Linoleic Acid (GLA)	10	1
Lipase	10	1
Magnesium	10	1
Pancreatic Enzymes	10	1
Probiotics	10	1
Selenium	10	1
Sulforaphane	10	1
Vitamin A	10	1
Vitamin B-12	10	1
Vitamin D	10	1
Vitamin K	10	1
Curcumin	7	6
Genistein	5	5
Feverfew	2	1
Flavonoids	2	2
St. Johns Wort	2	1
Amla Fruit	1	1
Breast Milk	1	1
Cayenne	1	1
Coleus Forskohlii	1	1
Cordyceps sinensis	1	1
Docosahexaenoic acid (DHA)	1	1
Evening Primrose Oil	1	1
Fish Oil	1	1
Isoflavones	1	1
Trichilia rubescens	1	1
Enzyme Therapy	0	1

Article Count - 5

Quick Summary: 5 Problem Substances

Name	Cumulative Knowledge	Article Count
Bisphosphonates	10	1
Corticosteroid	10	1
Hydrocortisone	10	1
Potato	10	1
Prednisone	10	1

Article Count - 5

Quick Summary: 5 Therapeutic Actions

Name	Cumulative Knowledge	Article Count
Acupuncture	10	1
Exercise: Inspiratory Muscle Training	10	1
Massage/Therapeutic Touch	10	1
Physical Therapy	10	1
Breastfeeding	1	1

Article Count - 2

Quick Summary: 2 Problematic Actions

Name	Cumulative Knowledge	Article Count
Vaccination: Influenza	30	2
Vaccination: All	10	1

Category: Substances

Topic: [Omega-3 Fatty Acids](#)

[Omega-3 and gamma-linolenic fatty acids improve pulmonary status \(lung function, respiratory exacerbations and antibiotic consumption\), inflammatory and anthropometric parameters in adults with CF. - GMI Summary](#)

Pubmed Data : Arch Bronconeumol. 2009 Dec 30. Epub 2009 Dec 30. PMID: [20045240](#)

Article Published Date : Dec 30, 2009

Authors : Gabriel Oliveira, Casilda Oliveira, Eva Acosta, Francisco Espíldora, Lourdes Garrido-Sánchez, Eva García-Escobar, Gemma Rojo-Martínez, Montserrat Gonzalo, Federico Soriguer

Study Type : Human Study

Additional Links

Substances : [Gamma-Linoleic Acid \(GLA\) : CK\(76\) : AC\(17\)](#), [Omega-3 Fatty Acids : CK\(3255\) : AC\(319\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Pharmacological Actions : [Tumor Necrosis Factor \(TNF\) Alpha Inhibitor : CK\(1015\) : AC\(343\)](#)

Additional Keywords : [Drug Sparing : CK\(451\) : AC\(49\)](#)

[Omega-3 fatty acid supplementation reduces inflammatory biomarkers, erythrocyte sedimentation rate, and interleukin-8 concentrations in cystic fibrosis patients. - GMI Summary](#)

Pubmed Data : J Pediatr Gastroenterol Nutr. 2010 May;50(5):537-44. PMID: [20639712](#)

Article Published Date : May 01, 2010

Authors : Christina Keen, Anna-Carin Olin, Susanne Eriksson, Anna Ekman, Anders Lindblad, Samar Basu, Christopher Beermann, Birgitta Strandvik

Study Type : Human Study

Additional Links

Substances : [Omega-3 Fatty Acids : CK\(3255\) : AC\(319\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Pharmacological Actions : [Interleukin-8 downregulation : CK\(97\) : AC\(28\)](#)

[The omega-3 fatty acids decrease serum leukotriene B4 in patients with cystic fibrosis. - GMI Summary](#)

Pubmed Data : Pediatr Pulmonol. 1994 Oct;18(4):211-7. PMID: [7838619](#)

Article Published Date : Oct 01, 1994

Authors : L E Kurlandsky, M R Bennink, P M Webb, P J Ulrich, L J Baer

Study Type : Human Study

Additional Links

Substances : [Omega-3 Fatty Acids : CK\(3255\) : AC\(319\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Pharmacological Actions : [Leukotriene B4 downregulation : CK\(13\) : AC\(4\)](#)

[Omega-3 fatty acids may have a protective effect against mucus over-production caused by pulmonary bacterial colonization in cystic fibrosis. - GMI Summary](#)

Pubmed Data : Respir Res. 2007 Jun 5;8:39. PMID: [17550583](#)

Article Published Date : Jun 05, 2007

Authors : Daniel Tetaert, Maud Pierre, Dominique Demeyer, Marie-Odile Husson, Laurent Béghin,

Claude Galabert, Frédéric Gottrand, Christopher Beermann, Benoit Guery, Jean-Luc Desseygn

Study Type : Animal Study

Additional Links

Substances : [Omega-3 Fatty Acids : CK\(3255\) : AC\(319\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#), [Pseudomonas aeruginosa : CK\(58\) : AC\(31\)](#)

Topic: [Vitamin E](#)

[An antioxidant formula increases important fat-soluble nutrients and antioxidants and reduces airway inflammation in patients with Cystic Fibrosis.](#) - GMI Summary

Pubmed Data : J Cyst Fibros. 2008 Jan;7(1):60-7. Epub 2007 Jun 13. PMID: [17569601](#)

Article Published Date : Jan 01, 2008

Authors : Konstantinos A Papas, Marci K Sontag, Churee Pardee, Ronald J Sokol, Scott D Sagel, Frank J Accurso, Jeffrey S Wagener

Study Type : Human Study

Additional Links

Substances : [Antioxidant formulas : CK\(467\) : AC\(72\)](#), [Carotenoids : CK\(1055\) : AC\(213\)](#), [Coenzyme Q10 : CK\(669\) : AC\(104\)](#), [Vitamin E : CK\(1252\) : AC\(218\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Pharmacological Actions : [Antioxidants : CK\(3508\) : AC\(1292\)](#)

[Vitamin A and E levels are inversely correlated with pulmonary exacerbations in cystic fibrosis.](#) - GMI Summary

Pubmed Data : J Pediatr Gastroenterol Nutr. 2007 Sep;45(3):347-53. PMID: [17873748](#)

Article Published Date : Sep 01, 2007

Authors : Fahed Hakim, Eitan Kerem, Joseph Rivlin, Lea Bentur, Halina Stankiewicz, Tali Bdolach-Abram, Michael Wilschanski

Study Type : Human Study

Additional Links

Substances : [Vitamin A : CK\(371\) : AC\(58\)](#), [Vitamin E : CK\(1252\) : AC\(218\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

[Vitamin E deficiency resulting in mild hemolysis in patients with cystic fibrosis can be corrected with a water-miscible form of vitamin E.](#) - GMI Summary

Pubmed Data : J Clin Invest. 1977 Jul;60(1):233-41. PMID: [874086](#)

Article Published Date : Jul 01, 1977

Authors : P M Farrell, J G Bieri, J F Fratantoni, R E Wood, P A di Sant'Agnese

Study Type : Human Study

Additional Links

Substances : [Vitamin E : CK\(1252\) : AC\(218\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Topic: [Glutathione](#)

[Glutathione improves clinical markers in cystic fibrosis patients.](#) - GMI Summary

Pubmed Data : J Cyst Fibros. 2008 Sep;7(5):433-6. Epub 2008 May 21. PMID: [18499536](#)

Article Published Date : Sep 01, 2008

Authors : Alfredo Visca, Clark T Bishop, Sterling C Hilton, Valerie M Hudson

Study Type : Human Study

Additional Links

Substances : [Glutathione : CK\(61\) : AC\(16\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Inhaled glutathione improves symptoms in patients with cystic fibrosis. - GMI Summary

Pubmed Data : Chest. 2005 Jan;127(1):308-17. PMID: [15653998](#)

Article Published Date : Jan 01, 2005

Authors : Clark Bishop, Valerie M Hudson, Sterling C Hilton, Cathleen Wilde

Study Type : Human Study

Additional Links

Substances : [Glutathione : CK\(61\) : AC\(16\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

The CFTR mutation in cystic fibrosis may result in reduced glutathione transport, indicating glutathione supplementation may play a critical role in slowing disease progression. - GMI Summary

Pubmed Data : Free Radic Biol Med. 2001 Jun 15;30(12):1440-61. PMID: [11390189](#)

Article Published Date : Jun 15, 2001

Authors : V M Hudson

Study Type : Commentary

Additional Links

Substances : [Glutathione : CK\(61\) : AC\(16\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Topic: Antioxidant formulas

An antioxidant formula increases important fat-soluble nutrients and antioxidants and reduces airway inflammation in patients with Cystic Fibrosis. - GMI Summary

Pubmed Data : J Cyst Fibros. 2008 Jan;7(1):60-7. Epub 2007 Jun 13. PMID: [17569601](#)

Article Published Date : Jan 01, 2008

Authors : Konstantinos A Papas, Marci K Sontag, Churee Pardee, Ronald J Sokol, Scott D Sagel, Frank J Accurso, Jeffrey S Wagener

Study Type : Human Study

Additional Links

Substances : [Antioxidant formulas : CK\(467\) : AC\(72\)](#), [Carotenoids : CK\(1055\) : AC\(213\)](#), [Coenzyme Q10 : CK\(669\) : AC\(104\)](#), [Vitamin E : CK\(1252\) : AC\(218\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Pharmacological Actions : [Antioxidants : CK\(3508\) : AC\(1292\)](#)

Antioxidant supplementation may have therapeutic value in the treatment of cystic fibrosis - Article 2. - GMI Summary

Pubmed Data : Acta Paediatr Suppl. 1994 Apr;83(395):49-57. PMID: [8025360](#)

Article Published Date : Apr 01, 1994

Authors : B M Winklhofer-Roob

Study Type : Human Study

Additional Links

Substances : [Antioxidant formulas : CK\(467\) : AC\(72\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Topic: Arginine

L-arginine improves exhaled nitric oxide and pulmonary function in patients with cystic fibrosis. - GMI Summary

Pubmed Data : Am J Respir Crit Care Med. 2006 Jul 15;174(2):208-12. Epub 2006 Apr 20. PMID:

[16627863](#)

Article Published Date : Jul 15, 2006

Authors : Hartmut Grasmann, Fionn Kurtz, Felix Ratjen

Study Type : Human Study

Additional Links

Substances : [Arginine : CK\(970\) : AC\(169\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

[L-arginine supplementation improve nitric oxide formation in cystic fibrosis patients who exhibit decreased levels of exhaled nitric oxide.](#) - GMI Summary

Pubmed Data : Eur Respir J. 2005 Jan;25(1):62-8. PMID: [15640324](#)

Article Published Date : Jan 01, 2005

Authors : H Grasmann, C Grasmann, F Kurtz, G Tietze-Schillings, U Vester, F Ratjen

Study Type : Human Study

Additional Links

Substances : [Arginine : CK\(970\) : AC\(169\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Topic: [Coenzyme Q10](#)

[An antioxidant formula increases important fat-soluble nutrients and antioxidants and reduces airway inflammation in patients with Cystic Fibrosis.](#) - GMI Summary

Pubmed Data : J Cyst Fibros. 2008 Jan;7(1):60-7. Epub 2007 Jun 13. PMID: [17569601](#)

Article Published Date : Jan 01, 2008

Authors : Konstantinos A Papas, Marci K Sontag, Churee Pardee, Ronald J Sokol, Scott D Sagel, Frank J Accurso, Jeffrey S Wagener

Study Type : Human Study

Additional Links

Substances : [Antioxidant formulas : CK\(467\) : AC\(72\)](#), [Carotenoids : CK\(1055\) : AC\(213\)](#), [Coenzyme Q10 : CK\(669\) : AC\(104\)](#), [Vitamin E : CK\(1252\) : AC\(218\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Pharmacological Actions : [Antioxidants : CK\(3508\) : AC\(1292\)](#)

[Coenzyme Q10 levels are low in children with cystic fibrosis, indicating that supplementation could be beneficial.](#) - GMI Summary

Pubmed Data : Pharmacol Res. 2002 Apr;45(4):355-9. PMID: [18534204](#)

Article Published Date : Apr 01, 2002

Authors : Theresa A Laguna, Marci K Sontag, Iris Osberg, Jeffrey S Wagener, Frank J Accurso, Ronald J Sokol

Study Type : Human Study

Additional Links

Substances : [Coenzyme Q10 : CK\(669\) : AC\(104\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Topic: [DHA \(Docosahexaenoic Acid\)](#)

[An 8-month treatment with omega-3 fatty acids \(EPA and DHA\) has a positive effects, such as decreasing inflammation, in patients with cystic fibrosis.](#) - GMI Summary

Pubmed Data : JPEN J Parenter Enteral Nutr. 2003 Jan-Feb;27(1):52-7. PMID: [12549599](#)

Article Published Date : Jan 01, 2003

Authors : Basilio De Vizia, Valeria Raia, Christian Spano, Christiane Pavlidis, Anna Coruzzo, Mariolina Alessio

Study Type : Human Study

Additional Links

Substances : [DHA \(Docosahexaenoic Acid\) : CK\(562\) : AC\(100\)](#), [EPA \(Eicosapentaenoic Acid\) : CK\(575\) : AC\(84\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

[Oral DHA shifts the phospholipid fatty acid profile in patients with cystic fibrosis to a less pro-inflammatory profile.](#) - GMI Summary

Pubmed Data : Prostaglandins Leukot Essent Fatty Acids. 2008 Feb;78(2):109-15. Epub 2008 Feb 13. PMID: [18276127](#)

Article Published Date : Feb 01, 2008

Authors : S Van Biervliet, M Devos, T Delhay, J P Van Biervliet, E Robberecht, A Christophe

Study Type : Human Study

Additional Links

Substances : [DHA \(Docosahexaenoic Acid\) : CK\(562\) : AC\(100\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

[DHA increases resistance to Pseudomonas aeruginosa infection.](#) - GMI Summary

Pubmed Data : Biochem J. 2009 Apr 1;419(1):193-200. PMID: [19105793](#)

Article Published Date : Apr 01, 2009

Authors : Jose G Martinez, Michael Waldon, Qiyu Huang, Sandra Alvarez, Ami Oren, Natalie Sandoval, Ming Du, Feimeng Zhou, Alexandra Zenz, Karl Lohner, Robert Desharnais, Edith Porter

Additional Links

Substances : [DHA \(Docosahexaenoic Acid\) : CK\(562\) : AC\(100\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#), [Lung Diseases : CK\(32\) : AC\(5\)](#), [Pseudomonas aeruginosa : CK\(58\) : AC\(31\)](#), [Pseudomonas Infections : CK\(28\) : AC\(11\)](#)

Topic: [Lactobacillus rhamnosus GG](#)

[Lactobacillus GG supplementation reduces pulmonary exacerbations and hospital admissions in patients with cystic fibrosis.](#) - GMI Summary

Pubmed Data : Zhongguo Zhong Xi Yi Jie He Za Zhi. 2009 Jul;29(7):639-41. PMID: [17360077](#)

Article Published Date : Jul 01, 2009

Authors : Eugenia Bruzzese, Valeria Raia, Maria Immacolata Spagnuolo, Monica Volpicelli, Giulio De Marco, Luigi Maiuri, Alfredo Guarino

Study Type : Human Study

Additional Links

Substances : [Lactobacillus rhamnosus GG : CK\(211\) : AC\(28\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

[The probiotic Lactobacillus GG reduces intestinal inflammation in patients with cystic fibrosis.](#) - GMI Summary

Pubmed Data : Br J Sports Med. 2006 Apr;40(4):351-4. PMID: [15379842](#)

Article Published Date : Apr 01, 2006

Authors : E Bruzzese, V Raia, G Gaudiello, G Polito, V Buccigrossi, V Formicola, A Guarino

Study Type : Human Study

Additional Links

Substances : [Lactobacillus rhamnosus GG : CK\(211\) : AC\(28\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Topic: [NAC \(N-acetyl-L-cysteine\)](#)

[N-acetylcysteine increases the fluidity of airway mucus in patients with Cystic Fibrosis.](#) - GMI Summary

Pubmed Data : : J Cell Physiol. 2004 Oct;201(1):106-16. PMID: [15281093](#)

Article Published Date : Oct 01, 2004

Authors : Thierry Rochat, Jean-Silvain Lacroix, Lan Jornot

Study Type : Human Study

Additional Links

Substances : [NAC \(N-acetyl-L-cysteine\)](#) : [CK\(258\)](#) : [AC\(62\)](#)

Diseases : [Cystic Fibrosis](#) : [CK\(703\)](#) : [AC\(77\)](#)

Pharmacological Actions : [Mucolytic](#) : [CK\(12\)](#) : [AC\(2\)](#)

[N-acetylcysteine reduces inflammation in patients with cystic fibrosis.](#) - GMI Summary

Pubmed Data : Proc Natl Acad Sci U S A. 2006 Mar 21;103(12):4628-33. Epub 2006 Mar 13. PMID: [16537378](#)

Article Published Date : Mar 21, 2006

Authors : Rabindra Tirouvanziam, Carol K Conrad, Teodoro Bottiglieri, Leonore A Herzenberg, Richard B Moss, Leonard A Herzenberg

Study Type : Human Study

Additional Links

Substances : [NAC \(N-acetyl-L-cysteine\)](#) : [CK\(258\)](#) : [AC\(62\)](#)

Diseases : [Cystic Fibrosis](#) : [CK\(703\)](#) : [AC\(77\)](#)

Topic: [Salt](#)

[Inhaled hypertonic saline accelerates mucus clearance and improves lung function in patients with cystic fibrosis.](#) - GMI Summary

Pubmed Data : N Engl J Med. 2006 Jan 19;354(3):241-50. PMID: [16421365](#)

Article Published Date : Jan 19, 2006

Authors : Scott H Donaldson, William D Bennett, Kirby L Zeman, Michael R Knowles, Robert Tarran, Richard C Boucher

Study Type : Human Study

Additional Links

Substances : [Salt](#) : [CK\(41\)](#) : [AC\(5\)](#)

Diseases : [Cystic Fibrosis](#) : [CK\(703\)](#) : [AC\(77\)](#)

[Inhaled hypertonic saline significantly reduces the incidence of pulmonary exacerbations in patients with cystic fibrosis.](#) - GMI Summary

Pubmed Data : N Engl J Med. 2006 Jan 19;354(3):229-40. PMID: [16421364](#)

Article Published Date : Jan 19, 2006

Authors : Mark R Elkins, Michael Robinson, Barbara R Rose, Colin Harbour, Carmel P Moriarty, Guy B Marks, Elena G Belousova, Wei Xuan, Peter T P Bye,

Study Type : Human Study

Additional Links

Substances : [Salt](#) : [CK\(41\)](#) : [AC\(5\)](#)

Diseases : [Cystic Fibrosis](#) : [CK\(703\)](#) : [AC\(77\)](#)

Topic: [Taurine](#)

[Taurine may be a useful adjunct in patients with cystic fibrosis and severe steatorrhea.](#) - GMI Summary

Pubmed Data : Am J Dis Child. 1991 Dec;145(12):1401-4. PMID: [1669669](#)

Article Published Date : Dec 01, 1991

Authors : L J Smith, F Lacaille, G Lepage, N Ronco, A Lamarre, C C Roy

Study Type : Human Study

Additional Links

Substances : [Taurine : CK\(145\) : AC\(33\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#), [Steatorrhea : CK\(20\) : AC\(2\)](#)

[Ursodeoxycholic acid and taurine have a therapeutic role in treating liver disease associated with cystic fibrosis - GMI Summary](#)

Pubmed Data : Hepatology. 1996 Jun;23(6):1484-90. PMID: [8675168](#)

Article Published Date : Jun 01, 1996

Authors : C Colombo, P M Battezzati, M Podda, N Bettinardi, A Giunta

Study Type : Human Study

Additional Links

Substances : [Taurine : CK\(145\) : AC\(33\)](#), [Ursodeoxycholic acid : CK\(30\) : AC\(3\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Topic: [Ursodeoxycholic acid](#)

[Ursodeoxycholic acid and taurine have a therapeutic role in treating liver disease associated with cystic fibrosis - GMI Summary](#)

Pubmed Data : Hepatology. 1996 Jun;23(6):1484-90. PMID: [8675168](#)

Article Published Date : Jun 01, 1996

Authors : C Colombo, P M Battezzati, M Podda, N Bettinardi, A Giunta

Study Type : Human Study

Additional Links

Substances : [Taurine : CK\(145\) : AC\(33\)](#), [Ursodeoxycholic acid : CK\(30\) : AC\(3\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

[Ursodeoxycholic acid is associated with improvement in hepatobiliary symptoms and liver function tests in adults with liver disease who have cystic fibrosis. - GMI Summary](#)

Pubmed Data : Liver Int. 2007 Dec;27(10):1402-8. PMID: [18036103](#)

Article Published Date : Dec 01, 2007

Authors : Christopher Paul Desmond, John Wilson, Michael Bailey, Denise Clark, Stuart Keith Roberts

Study Type : Human Study

Additional Links

Substances : [Ursodeoxycholic acid : CK\(30\) : AC\(3\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#), [Liver Diseases : CK\(12\) : AC\(3\)](#)

Topic: [Whey](#)

[Improved glutathione status in young adult patients with cystic fibrosis supplemented with whey protein. - GMI Summary](#)

Pubmed Data : J Cyst Fibros. 2003 Dec;2(4):195-8. PMID: [15463873](#)

Article Published Date : Dec 01, 2003

Authors : Vijaylaxmi Grey, Shawn R Mohammed, Argyrios A Smountas, Rasha Bahloul, Larry C Lands

Study Type : Human Study

Additional Links

Substances : [Whey : CK\(323\) : AC\(72\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#), [Lung Diseases : CK\(32\) : AC\(5\)](#), [Oxidative Stress : CK\(1867\) : AC\(710\)](#)

Pharmacological Actions : [Antioxidants : CK\(3508\) : AC\(1292\)](#), [Glutathione Upregulation : CK\(144\) : AC\(48\)](#)

[Oral supplementation with pressurized whey improves nutritional status and can have additional beneficial effects on inflammation in patients with cystic fibrosis. - GMI Summary](#)

Pubmed Data : J Med Food. 2010 Feb;13(1):77-82. PMID: [20136439](#)

Article Published Date : Feb 01, 2010

Authors : L C Lands, M Iskandar, N Beaudoin, B Meehan, N Dauletbaev, Y Berthiame

Study Type : Human Study

Additional Links

Substances : [Whey](#) : [CK\(323\)](#) : [AC\(72\)](#)

Diseases : [C-Reactive Protein](#) : [CK\(777\)](#) : [AC\(74\)](#), [Cystic Fibrosis](#) : [CK\(703\)](#) : [AC\(77\)](#), [Oxidative Stress](#) : [CK\(1867\)](#) : [AC\(710\)](#)

Pharmacological Actions : [Anti-Inflammatory Agents](#) : [CK\(1146\)](#) : [AC\(420\)](#), [Interleukin-8 downregulation](#) : [CK\(97\)](#) : [AC\(28\)](#)

Topic: [Zinc](#)

[Zinc supplementation is beneficial in Zinc-deficient Cystic Fibrosis patients.](#) - GMI Summary

Pubmed Data : Ann Nutr Metab. 2008;52(2):152-6. Epub 2008 Apr 29. PMID: [18446019](#)

Article Published Date : Jan 01, 2008

Authors : S Van Biervliet, S Vande Velde, J P Van Biervliet, E Robberecht

Study Type : Human Study

Additional Links

Substances : [Zinc](#) : [CK\(850\)](#) : [AC\(126\)](#)

Diseases : [Cystic Fibrosis](#) : [CK\(703\)](#) : [AC\(77\)](#)

[Zinc supplementation reduces the number of days of oral antibiotics used to treat respiratory tract infections in children with cystic fibrosis.](#) - GMI Summary

Pubmed Data : Pediatr Pulmonol. 2008 Mar;43(3):281-7. PMID: [18214943](#)

Article Published Date : Mar 01, 2008

Authors : I Abdulhamid, F W J Beck, S Millard, X Chen, A Prasad

Study Type : Human Study

Additional Links

Substances : [Zinc](#) : [CK\(850\)](#) : [AC\(126\)](#)

Diseases : [Cystic Fibrosis](#) : [CK\(703\)](#) : [AC\(77\)](#), [Respiratory Tract Infections](#) : [CK\(123\)](#) : [AC\(13\)](#)

Topic: [beta-Carotene](#)

[Antioxidant supplementation may have therapeutic value in the treatment of cystic fibrosis - Article 2.](#) - GMI Summary

Pubmed Data : Am J Clin Nutr. 2003 Jan;77(1):150-9. PMID: [12499335](#)

Article Published Date : Jan 01, 2003

Authors : Lisa G Wood, Dominic A Fitzgerald, Alexander K Lee, Manohar L Garg

Study Type : Human Study

Additional Links

Substances : [beta-Carotene](#) : [CK\(217\)](#) : [AC\(38\)](#), [Selenium](#) : [CK\(574\)](#) : [AC\(94\)](#)

Diseases : [Cystic Fibrosis](#) : [CK\(703\)](#) : [AC\(77\)](#)

[Beta-carotene supplementation ameliorates deficiencies and reduces oxidative stress in Cystic Fibrosis patients.](#) - GMI Summary

Pubmed Data : Ann Nutr Metab. 2000;44(1):30-7. PMID: [10838464](#)

Article Published Date : Jan 01, 2000

Authors : P Rust, I Eichler, S Renner, I Elmadfa

Study Type : Human Study

Additional Links

Substances : [beta-Carotene](#) : [CK\(217\)](#) : [AC\(38\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Pharmacological Actions : [Antioxidants : CK\(3508\) : AC\(1292\)](#)

Topic: [Lactoferrin](#)

[The inability of patients with cystic fibrosis to produce adequate lactoferrin contributes to the pathogenesis of P. aeruginosa lung infection. - GMI Summary](#)

Pubmed Data : J Infect Dis. 2004 Oct 1;190(7):1245-53. Epub 2004 Aug 26. PMID: [15346334](#)

Article Published Date : Oct 01, 2004

Authors : Mark P Rogan, Clifford C Taggart, Catherine M Greene, Philip G Murphy, Shane J O'Neill, Noel G McElvaney

Study Type : Human Study

Additional Links

Substances : [Lactoferrin : CK\(118\) : AC\(31\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#), [Pseudomonas aeruginosa : CK\(58\) : AC\(31\)](#)

[Lactoferrin inhibits Pseudomonas aeruginosa and Burkholderia cenocepia, two infectious organisms found in Cystic Fibrosis patients. - GMI Summary](#)

Pubmed Data : Int J Immunopathol Pharmacol. 2008 Jan-Mar;21(1):51-9. PMID: [18336731](#)

Article Published Date : Jan 01, 2008

Authors : F Berlutti, F Superti, M Nicoletti, C Morea, A Frioni, M G Ammendolia, A Battistoni, P Valenti

Study Type : In Vitro Study

Additional Links

Substances : [Lactoferrin : CK\(118\) : AC\(31\)](#)

Diseases : [Burkholderia Infections : CK\(1\) : AC\(1\)](#), [Cystic Fibrosis : CK\(703\) : AC\(77\)](#), [Pseudomonas aeruginosa : CK\(58\) : AC\(31\)](#)

Topic: [Vitamin C](#)

[L-ascorbate may offer potential as a therapeutic agent for the improvement of chronic rhinosinusitis in patients with cystic fibrosis. - GMI Summary](#)

Pubmed Data : Am J Rhinol Allergy. 2009 May-Jun;23(3):294-9. PMID: [19490804](#)

Article Published Date : May 01, 2009

Authors : Do-Yeon Cho, Peter H Hwang, Beate Illek

Study Type : Human Study

Additional Links

Substances : [Vitamin C : CK\(1226\) : AC\(238\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#), [Rhinosinusitis : CK\(83\) : AC\(9\)](#)

[Vitamin C is a biological regulator of CFTR-mediated CL secretion in epithelia, indicating its potential for the treatment of sticky airway secretions in Cystic Fibrosis. - GMI Summary](#)

Pubmed Data : Proc Natl Acad Sci U S A. 2004 Mar 9;101(10):3691-6. Epub 2004 Mar 1. PMID: [14993613](#)

Article Published Date : Mar 09, 2004

Authors : Horst Fischer, Christian Schwarzer, Beate Illek

Study Type : In Vitro Study

Additional Links

Substances : [Vitamin C : CK\(1226\) : AC\(238\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Topic: [Carotenoids](#)

[An antioxidant formula increases important fat-soluble nutrients and antioxidants and reduces airway inflammation in patients with Cystic Fibrosis. - GMI Summary](#)

GMI Summary

Pubmed Data : J Cyst Fibros. 2008 Jan;7(1):60-7. Epub 2007 Jun 13. PMID: [17569601](#)

Article Published Date : Jan 01, 2008

Authors : Konstantinos A Papas, Marci K Sontag, Churee Pardee, Ronald J Sokol, Scott D Sagel, Frank J Accurso, Jeffrey S Wagener

Study Type : Human Study

Additional Links

Substances : [Antioxidant formulas : CK\(467\) : AC\(72\)](#), [Carotenoids : CK\(1055\) : AC\(213\)](#), [Coenzyme Q10 : CK\(669\) : AC\(104\)](#), [Vitamin E : CK\(1252\) : AC\(218\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Pharmacological Actions : [Antioxidants : CK\(3508\) : AC\(1292\)](#)

Topic: [Choline](#)

[Choline-related supplements may improve status of children with Cystic Fibrosis - GMI Summary](#)

Pubmed Data : Am J Clin Nutr. 2007 Mar;85(3):702-8. PMID: [17344490](#)

Article Published Date : Mar 01, 2007

Authors : Sheila M Innis, A George F Davidson, Stepan Melynk, S Jill James

Study Type : Human Study

Additional Links

Substances : [Choline : CK\(14\) : AC\(5\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Topic: [EPA \(Eicosapentaenoic Acid\)](#)

[An 8-month treatment with omega-3 fatty acids \(EPA and DHA\) has a positive effects, such as decreasing inflammation, in patients with cystic fibrosis. - GMI Summary](#)

Pubmed Data : JPEN J Parenter Enteral Nutr. 2003 Jan-Feb;27(1):52-7. PMID: [12549599](#)

Article Published Date : Jan 01, 2003

Authors : Basilio De Vizia, Valeria Raia, Christian Spano, Christiane Pavlidis, Anna Coruzzo, Mariolina Alessio

Study Type : Human Study

Additional Links

Substances : [DHA \(Docosahexaenoic Acid\) : CK\(562\) : AC\(100\)](#), [EPA \(Eicosapentaenoic Acid\) : CK\(575\) : AC\(84\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Topic: [Folic Acid](#)

[5-methyltetrahydrofolate \(folic acid\) and vitamin B12 ameliorate red blood cell abnormalities in pediatric patients with Cystic Fibrosis. - GMI Summary](#)

Pubmed Data : PLoS One. 2009;4(3):e4782. Epub 2009 Mar 11. PMID: [19277125](#)

Article Published Date : Jan 01, 2009

Authors : Cinzia Scambi, Lucia De Franceschi, Patrizia Guarini, Fabio Poli, Angela Siciliano, Patrizia Pattini, Andrea Biondani, Valentina La Verde, Oscar Bortolami, Francesco Turrini, Franco Carta, Ciro D'Orazio, Baroukh M Assael, Giovanni Faccini, Lisa M Bambara

Study Type : Human Study

Additional Links

Substances : [Folic Acid : CK\(572\) : AC\(77\)](#), [Vitamin B-12 : CK\(752\) : AC\(94\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Topic: Gamma-Linoleic Acid (GLA)

Omega-3 and gamma-linolenic fatty acids improve pulmonary status (lung function, respiratory exacerbations and antibiotic consumption), inflammatory and anthropometric parameters in adults with CF. - GMI Summary

Pubmed Data : Arch Bronconeumol. 2009 Dec 30. Epub 2009 Dec 30. PMID: [20045240](#)

Article Published Date : Dec 30, 2009

Authors : Gabriel Oliveira, Casilda Oliveira, Eva Acosta, Francisco Espíldora, Lourdes Garrido-Sánchez, Eva García-Escobar, Gemma Rojo-Martínez, Montserrat Gonzalo, Federico Soriguer

Study Type : Human Study

Additional Links

Substances : [Gamma-Linoleic Acid \(GLA\) : CK\(76\) : AC\(17\)](#), [Omega-3 Fatty Acids : CK\(3255\) : AC\(319\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Pharmacological Actions : [Tumor Necrosis Factor \(TNF\) Alpha Inhibitor : CK\(1015\) : AC\(343\)](#)

Additional Keywords : [Drug Sparing : CK\(451\) : AC\(49\)](#)

Topic: Lipase

A high lipase pancreatic enzyme is superior to regular pancreatin in adult cystic fibrosis patients. - GMI Summary

Pubmed Data : Aliment Pharmacol Ther. 1994 Dec;8(6):603-7. PMID: [7696449](#)

Article Published Date : Dec 01, 1994

Authors : [No authors listed]

Study Type : Human Study

Additional Links

Substances : [Lipase : CK\(30\) : AC\(3\)](#), [Pancreatic Enzymes : CK\(52\) : AC\(9\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Topic: Magnesium

Oral magnesium supplementation may help overcome the failure of rhDNase-I in patients with cystic fibrosis. - GMI Summary

Pubmed Data : Thorax. 2006 Nov;61(11):962-8. PMID: [17071834](#)

Article Published Date : Nov 01, 2006

Authors : N N Sanders, H Franckx, K De Boeck, J Haustraete, S C De Smedt, J Demeester

Study Type : Human Study

Additional Links

Substances : [Magnesium : CK\(827\) : AC\(116\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Topic: Pancreatic Enzymes

A high lipase pancreatic enzyme is superior to regular pancreatin in adult cystic fibrosis patients. - GMI Summary

Pubmed Data : Aliment Pharmacol Ther. 1994 Dec;8(6):603-7. PMID: [7696449](#)

Article Published Date : Dec 01, 1994

Authors : [No authors listed]

Study Type : Human Study

Additional Links

Substances : [Lipase : CK\(30\) : AC\(3\)](#), [Pancreatic Enzymes : CK\(52\) : AC\(9\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Topic: [Probiotics](#)

[Probiotics improve the intestinal function of patients with cystic fibrosis.](#) - GMI Summary

Pubmed Data : An Pediatr (Barc). 2008 Dec;69(6):501-5. PMID: [19128761](#)

Article Published Date : Dec 01, 2008

Authors : D Infante Pina, S Redecillas Ferreiro, A Torrent Vernetta, O Segarra Cantón, M Maldonado Smith, L Gartner Tizziano, E Hidalgo Albert

Study Type : Human Study

Additional Links

Substances : [Probiotics : CK\(2426\) : AC\(232\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Topic: [Selenium](#)

[Antioxidant supplementation may have therapeutic value in the treatment of cystic fibrosis - Article 2.](#) - GMI Summary

Pubmed Data : Am J Clin Nutr. 2003 Jan;77(1):150-9. PMID: [12499335](#)

Article Published Date : Jan 01, 2003

Authors : Lisa G Wood, Dominic A Fitzgerald, Alexander K Lee, Manohar L Garg

Study Type : Human Study

Additional Links

Substances : [beta-Carotene : CK\(217\) : AC\(38\)](#), [Selenium : CK\(574\) : AC\(94\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Topic: [Sulforaphane](#)

[Oral sulforaphane safely and effectively induces mucosal Phase II enzyme expression in the upper airway of human subjects.](#) - GMI Summary

Pubmed Data : Clin Immunol. 2009 Mar;130(3):244-51. Epub 2008 Nov 22. PMID: [19028145](#)

Article Published Date : Mar 01, 2009

Authors : Marc A Riedl, Andrew Saxon, David Diaz-Sanchez

Study Type : Human Study

Additional Links

Substances : [Sulforaphane : CK\(484\) : AC\(167\)](#)

Diseases : [COPD : CK\(138\) : AC\(17\)](#), [Cystic Fibrosis : CK\(703\) : AC\(77\)](#), [Glutathione Deficiency : CK\(63\) : AC\(14\)](#), [Lung Diseases : CK\(32\) : AC\(5\)](#), [Pulmonary Fibrosis : CK\(149\) : AC\(48\)](#), [Respiratory Diseases : CK\(174\) : AC\(29\)](#)

Pharmacological Actions : [Antioxidants : CK\(3508\) : AC\(1292\)](#), [Glutathione Upregulation : CK\(144\) : AC\(48\)](#), [Phase II Detoxification Enzyme Inducer : CK\(64\) : AC\(31\)](#)

Additional Keywords : [Isothiocyanates : CK\(70\) : AC\(23\)](#)

Topic: [Vitamin A](#)

[Vitamin A and E levels are inversely correlated with pulmonary exacerbations in cystic fibrosis.](#) - GMI Summary

Pubmed Data : J Pediatr Gastroenterol Nutr. 2007 Sep;45(3):347-53. PMID: [17873748](#)

Article Published Date : Sep 01, 2007

Authors : Fahed Hakim, Eitan Kerem, Joseph Rivlin, Lea Bentur, Halina Stankiewicz, Tali Bdolach-Abram, Michael Wilschanski

Study Type : Human Study

Additional Links

Substances : [Vitamin A : CK\(371\) : AC\(58\)](#), [Vitamin E : CK\(1252\) : AC\(218\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Topic: [Vitamin B-12](#)

[5-methyltetrahydrofolate \(folic acid\) and vitamin B12 ameliorate red blood cell abnormalities in pediatric patients with Cystic Fibrosis. - GMI Summary](#)

Pubmed Data : PLoS One. 2009;4(3):e4782. Epub 2009 Mar 11. PMID: [19277125](#)

Article Published Date : Jan 01, 2009

Authors : Cinzia Scambi, Lucia De Franceschi, Patrizia Guarini, Fabio Poli, Angela Siciliano, Patrizia Pattini, Andrea Biondani, Valentina La Verde, Oscar Bortolami, Francesco Turrini, Franco Carta, Ciro D'Orazio, Baroukh M Assael, Giovanni Faccini, Lisa M Bambara

Study Type : Human Study

Additional Links

Substances : [Folic Acid : CK\(572\) : AC\(77\)](#), [Vitamin B-12 : CK\(752\) : AC\(94\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Topic: [Vitamin D](#)

[Very high dose vitamin D is effective for correcting deficiency in children and young adults with cystic fibrosis. - GMI Summary](#)

Pubmed Data : J Cyst Fibros. 2009 Jul;8(4):270-2. Epub 2009 May 15. PMID: [19447079](#)

Article Published Date : Jul 01, 2009

Authors : Steven R Boas, Joseph R Hageman, Louisa T Ho, Marissa Liveris

Study Type : Human Study

Additional Links

Substances : [Vitamin D : CK\(1606\) : AC\(233\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Topic: [Vitamin K](#)

[High dose vitamin K is efficacious in correcting vitamin K deficiency in cystic fibrosis. - GMI Summary](#)

Pubmed Data : J Cyst Fibros. 2008 Sep;7(5):457-9. Epub 2008 May 29. PMID: [18511355](#)

Article Published Date : Sep 01, 2008

Authors : Donna Drury, Vijay Laxmi Grey, Guylaine Ferland, Caren Gundberg, Larry C Lands

Study Type : Human Study

Additional Links

Substances : [Vitamin K : CK\(550\) : AC\(65\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Additional Keywords : [Pancreatic Insufficiency : CK\(10\) : AC\(1\)](#)

Topic: [Curcumin](#)

[Curcumin has a corrective effect on the expression of genetic defects associated with cystic fibrosis in an animal model. - GMI Summary](#)

Pubmed Data : Lab Invest. 2010 May 10. Epub 2010 May 10. PMID: [15105504](#)

Article Published Date : May 10, 2010

Authors : Marie E Egan, Marilyn Pearson, Scott A Weiner, Vanathy Rajendran, Daniel Rubin, Judith Glöckner-Pagel, Susan Canny, Kai Du, Gergely L Lukacs, Michael J Caplan

Study Type : Animal Study

Additional Links

Substances : [Curcumin : CK\(2890\) : AC\(1511\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Additional Keywords : [Genocorrective : CK\(3\) : AC\(2\)](#)

[Curcumin enhances the functional competence of the cystic-fibrosis associated gene, indicating it may have value for the condition.](#) - GMI Summary

Pubmed Data : Biochem Biophys Res Commun. 2007 Feb 9;353(2):351-6. Epub 2006 Dec 13. PMID: [17178109](#)

Article Published Date : Feb 09, 2007

Authors : Kazutsune Harada, Tsukasa Okiyonedo, Yasuaki Hashimoto, Kimiko Oyokawa, Kimitoshi Nakamura, Mary Ann Suico, Tsuyoshi Shuto, Hirofumi Kai

Study Type : In Vitro Study

Additional Links

Substances : [Curcumin : CK\(2890\) : AC\(1511\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

[Curcumin may have a therapeutic role in the treatment of cystic fibrosis.](#) - GMI Summary

Pubmed Data : Nutr Cancer. 1992;18(2):181-9. PMID: [16424149](#)

Article Published Date : Jan 01, 1992

Authors : Joanna Lipecka, Caroline Norez, Noura Bensalem, Maryvonne Baudouin-Legros, Gabrielle Planelles, Frédéric Becq, Aleksander Edelman, Noélie Davezac

Study Type : In Vitro Study

Additional Links

Substances : [Curcumin : CK\(2890\) : AC\(1511\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

[Curcumin may have therapeutic value in cystic fibrosis.](#) - GMI Summary

Pubmed Data : Trends Mol Med. 2004 Oct;10(10):473-5. PMID: [15464445](#)

Article Published Date : Oct 01, 2004

Authors : Pamela B Davis, Mitchell L Drumm

Study Type : Review

Additional Links

Substances : [Curcumin : CK\(2890\) : AC\(1511\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

[Curcumin opens cystic fibrosis transmembrane conductance regulator channels by a novel mechanism, indicating it may have therapeutic value in the condition.](#) - GMI Summary

Pubmed Data : J Biol Chem. 2007 Feb 16;282(7):4533-44. Epub 2006 Dec 18. PMID: [17178710](#)

Article Published Date : Feb 16, 2007

Authors : Wei Wang, Karen Bernard, Ge Li, Kevin L Kirk

Study Type : In Vitro Study

Additional Links

Substances : [Curcumin : CK\(2890\) : AC\(1511\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

[Curcumin stimulates cystic fibrosis transmembrane conductance regulator Cl-channel activity.](#) - GMI Summary

Pubmed Data : J Immunotoxicol. 2007 Apr;4(2):85-96. PMID: [15582996](#)

Article Published Date : Apr 01, 2007

Authors : Allan L Berger, Christoph O Randak, Lynda S Ostedgaard, Philip H Karp, Daniel W Vermeer, Michael J Welsh

Study Type : In Vitro Study

Additional Links

Substances : [Curcumin](#) : CK(2890) : AC(1511)

Diseases : [Cystic Fibrosis](#) : CK(703) : AC(77)

Topic: [Genistein](#)

[Compounds found within Coleus \(forskolin\) and Soy \(genistein\) may have therapeutic value in selective targeting CFTR channels in cystic fibrosis.](#) - GMI

Summary

Pubmed Data : Br J Pharmacol. 2009 Nov;158(5):1313-21. Epub 2009 Sep 25. PMID: [19788494](#)

Article Published Date : Nov 01, 2009

Authors : Biguang Tuo, Guorong Wen, Ursula Seidler

Study Type : In Vitro Study

Additional Links

Substances : [Coleus Forskohlii](#) : CK(22) : AC(9), [Genistein](#) : CK(436) : AC(174)

Diseases : [Cystic Fibrosis](#) : CK(703) : AC(77)

[Genistein has a genocorrective effect in Cystic Fibrosis](#) - GMI Summary

Pubmed Data : Br J Pharmacol. 2002 Oct;137(4):504-12. PMID: [12359632](#)

Article Published Date : Oct 01, 2002

Authors : Olga Zegarra-Moran, Leila Romio, Chiara Folli, Emanuela Caci, Frederic Becq, Jean-Michel Vierfond, Yvette Mettey, Giulio Cabrini, Pascale Fanen, Luis J V Galietta

Study Type : In Vitro Study

Additional Links

Substances : [Genistein](#) : CK(436) : AC(174)

Diseases : [Cystic Fibrosis](#) : CK(703) : AC(77)

[Genistein may be useful in patients with cystic fibrosis and the G551D-CFTR mutation.](#) - GMI Summary

Pubmed Data : J Biol Chem. 2002 Dec 27;277(52):50341-7. Epub 2002 Oct 16. PMID: [12386156](#)

Article Published Date : Dec 27, 2002

Authors : Laurence Saud, Marcelo Carattino, Thomas R Kleyman, Ronald C Rubenstein

Study Type : In Vitro Study

Additional Links

Substances : [Genistein](#) : CK(436) : AC(174)

Diseases : [Cystic Fibrosis](#) : CK(703) : AC(77)

[Genistein may help correct defective CFTR gene in Cystic Fibrosis](#) - GMI Summary

Pubmed Data : Am J Physiol. 1997 Sep;273(3 Pt 1):C988-98. PMID: [9316420](#)

Article Published Date : Sep 01, 1997

Authors : T C Hwang, F Wang, I C Yang, W W Reenstra

Study Type : In Vitro Study

Additional Links

Substances : [Genistein](#) : CK(436) : AC(174), [Isoflavones](#) : CK(627) : AC(124)

Diseases : [Cystic Fibrosis](#) : CK(703) : AC(77)

[Genistein restores functional interactions between Delta F508-CFTR and ENaC in Xenopus oocytes.](#) - GMI Summary

Pubmed Data : J Biol Chem. 2002 Mar 15;277(11):8928-33. Epub 2001 Dec 28. PMID: [11773060](#)

Article Published Date : Mar 15, 2002

Authors : Laurence Saud, Jinqing Li, Qinshi Jiang, Ronald C Rubenstein, Thomas R Kleyman

Study Type : In Vitro Study

Additional Links

Substances : [Genistein](#) : CK(436) : AC(174)

Diseases : [Cystic Fibrosis](#) : CK(703) : AC(77)

Topic: [Feverfew](#)

[Parthenolide \(from Feverfew\) may down-regulate excessive inflammation in Cystic Fibrosis](#) - GMI Summary

Pubmed Data : Am J Respir Cell Mol Biol. 2007 Jun;36(6):728-36. Epub 2007 Feb 1. PMID: [17272824](#)

Article Published Date : Jun 01, 2007

Authors : Aicha Saadane, Sophia Masters, Joseph DiDonato, Jingfeng Li, Melvin Berger

Study Type : Animal Study

Additional Links

Substances : [Feverfew](#) : CK(41) : AC(21)

Diseases : [Cystic Fibrosis](#) : CK(703) : AC(77)

Topic: [Flavonoids](#)

[Flavonoids may contribute to correction of the expression of the CFTR gene in Cystic Fibrosis.](#) - GMI Summary

Pubmed Data : Am J Physiol. 1998 Nov;275(5 Pt 1):L902-10. PMID: [9815107](#)

Article Published Date : Nov 01, 1998

Authors : B Illek, H Fischer

Study Type : In Vitro Study

Additional Links

Substances : [Flavonoids](#) : CK(868) : AC(290)

Diseases : [Cystic Fibrosis](#) : CK(703) : AC(77)

[Flavonoids may improve the expression of the defective CFTR gene in Cystic Fibrosis.](#) - GMI Summary

Pubmed Data : Nutr Cancer. 2002;43(1):76-81. PMID: [15191910](#)

Article Published Date : Jan 01, 2002

Authors : Meerana Lim, Karen McKenzie, Alexandra D Floyd, Edwin Kwon, Pamela L Zeitlin

Study Type : In Vitro Study

Additional Links

Substances : [Flavonoids](#) : CK(868) : AC(290)

Diseases : [Cystic Fibrosis](#) : CK(703) : AC(77)

Topic: [St. Johns Wort](#)

[Hyperforin, a compound found within St. John's wort, has powerful anti-inflammatory therapeutic potential in reducing lung fibrosis.](#) - GMI Summary

Pubmed Data : J Pharmacol Exp Ther. 2007 May;321(2):492-500. Epub 2007 Feb 8. PMID: [17289834](#)

Article Published Date : May 01, 2007

Authors : Isabella Dell'Aica, Raffaele Niero, Francesco Piazza, Anna Cabrelle, Luigi Sartor, Cristiano Colalto, Enrico Brunetta, Gireca Lorusso, Roberto Benelli, Adriana Albini, Fiorella Calabrese, Carlo Agostini, Spiridione Garbisa

Study Type : Animal Study

Additional Links

Substances : [St. Johns Wort](#) : CK(186) : AC(46)

Diseases : [Chemotherapy-Induced Toxicity: Bleomycin](#) : CK(50) : AC(21), [Cystic Fibrosis](#) : CK(703) : AC(77), [Pulmonary Fibrosis](#) : CK(149) : AC(48)

Pharmacological Actions : [Anti-Inflammatory Agents](#) : CK(1146) : AC(420), [Matrix metalloproteinase-2](#)

Topic: Amla Fruit

[Amla \(Emblica officinalis\) extract contains a compound known as pyrogallol which has anti-inflammatory activity in bronchial epithelial cells from patients with cystic fibrosis.](#) - GMI Summary

Pubmed Data : Int Immunopharmacol. 2008 Dec 10;8(12):1672-80. Epub 2008 Aug 27. PMID: [18760383](#)

Article Published Date : Dec 10, 2008

Authors : Elena Nicolis, Ilaria Lampronti, Maria Cristina Dechecchi, Monica Borgatti, Anna Tamanini, Nicoletta Bianchi, Valentino Bezzetti, Irene Mancini, Maria Grazia Giri, Paolo Rizzotti, Roberto Gambari, Giulio Cabrini

Study Type : In Vitro Study

Additional Links

Substances : [Amla Fruit : CK\(59\) : AC\(28\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Topic: Breast Milk

[Prolonged breastfeeding is beneficial in children with cystic fibrosis and may protect them against decline of pulmonary function.](#) - GMI Summary

Pubmed Data : Acta Paediatr. 2007 Aug;96(8):1228-32. Epub 2007 Jun 21. PMID: [17590186](#)

Article Published Date : Aug 01, 2007

Authors : Carla Colombo, Diana Costantini, Laura Zazzeron, Nadia Faelli, Maria Chiara Russo, Diana Ghisleni, Italo Gatelli, Marcello Giovannini, Enrica Riva, Rolf Zetterström, Carlo Agostoni

Study Type : Review

Additional Links

Substances : [Breast Milk : CK\(408\) : AC\(46\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#), [Postnatal Care: Breastfeeding : CK\(209\) : AC\(25\)](#)

Therapeutic Actions : [Breastfeeding : CK\(657\) : AC\(67\)](#)

Topic: Cayenne

[Capsaicin may help correct defective expression of the CFTR gene in Cystic Fibrosis](#) - GMI Summary

Pubmed Data : Mol Pharmacol. 2004 Jun;65(6):1415-26. PMID: [15155835](#)

Article Published Date : Jun 01, 2004

Authors : Tomohiko Ai, Silvia G Bompadre, Xiaohui Wang, Shenghui Hu, Min Li, Tzyh-Chang Hwang

Study Type : In Vitro Study

Additional Links

Substances : [Cayenne : CK\(141\) : AC\(22\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Topic: Coleus Forskohlii

[Compounds found within Coleus \(forskolin\) and Soy \(genistein\) may have therapeutic value in selective targeting CFTR channels in cystic fibrosis.](#) - GMI Summary

Pubmed Data : Br J Pharmacol. 2009 Nov;158(5):1313-21. Epub 2009 Sep 25. PMID: [19788494](#)

Article Published Date : Nov 01, 2009

Authors : Biguang Tuo, Guorong Wen, Ursula Seidler

Study Type : In Vitro Study

Additional Links

Substances : [Coleus Forskohlii : CK\(22\) : AC\(9\)](#), [Genistein : CK\(436\) : AC\(174\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Topic: [Cordyceps sinensis](#)

[Cordyceps may play a therapeutic role in improving pulmonary function in cystic fibrosis.](#) - GMI Summary

Pubmed Data : J Ethnopharmacol. 2008 Apr 17;117(1):92-101. Epub 2008 Feb 6. PMID: [18358654](#)

Article Published Date : Apr 17, 2008

Authors : Grace Gar-Lee Yue, Clara Bik-San Lau, Kwok-Pui Fung, Ping-Chung Leung, Wing-Hung Ko

Study Type : In Vitro Study

Additional Links

Substances : [Cordyceps sinensis : CK\(110\) : AC\(41\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Topic: [Docosahexaenoic acid \(DHA\)](#)

[DHA may down-regulate proinflammatory linolenic acid metabolism in CF.](#) - GMI Summary

Pubmed Data : J Lipid Res. 2008 Sep;49(9):1946-54. Epub 2008 May 14 PMID: [18480495](#)

Article Published Date : Sep 01, 2008

Authors : M Rabie Al-Turkmani, Charlotte Andersson, Ragheed Alturkmani, Waddah Katrangi, Joanne E Cluette-Brown, Steven D Freedman, Michael Laposata

Study Type : In Vitro Study

Additional Links

Substances : [Docosahexaenoic acid \(DHA\) : CK\(604\) : AC\(101\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Topic: [Evening Primrose Oil](#)

[Evening primrose oil may partially correct the theoretical delta-6-desaturase aberration in Cystic Fibrosis.](#) - GMI Summary

Pubmed Data : 1: Prostaglandins Leukot Med. 1982 Dec;9(6):615-28. PMID: [6961468](#)

Article Published Date : Dec 01, 1982

Authors : M S Manku, D F Horrobin, N Morse, V Kyte, K Jenkins, S Wright, J L Burton

Study Type : Review

Additional Links

Substances : [Evening Primrose Oil : CK\(66\) : AC\(8\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Topic: [Fish Oil](#)

[Fish oil supplementation has therapeutic value in the treatment of cystic fibrosis.](#) - GMI Summary

Pubmed Data : J Urol. 2008 Nov;180(5):2247-53. Epub 2008 Sep 20. PMID: [17943770](#)

Article Published Date : Nov 01, 2008

Authors : C McKarney, M Everard, T N'Diaye

Study Type : Review

Additional Links

Substances : [Fish Oil : CK\(615\) : AC\(95\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Topic: [Isoflavones](#)

[Genistein may help correct defective CFTR gene in Cystic Fibrosis](#) - GMI Summary

Pubmed Data : Am J Physiol. 1997 Sep;273(3 Pt 1):C988-98. PMID: [9316420](#)

Article Published Date : Sep 01, 1997

Authors : T C Hwang, F Wang, I C Yang, W W Reenstra

Study Type : In Vitro Study

Additional Links

Substances : [Genistein : CK\(436\) : AC\(174\)](#), [Isoflavones : CK\(627\) : AC\(124\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Topic: [Trichilia rubescens](#)

[A natural compound derived from Trichilia rubescens, corrects the defective CFTR gene expression in a yeast model of Cystic Fibrosis.](#) - GMI Summary

Pubmed Data : Mol Med. 2002 Feb;8(2):75-87. PMID: [12080183](#)

Article Published Date : Feb 01, 2002

Authors : Ana C V deCarvalho, Chi P Ndi, Apollinaire Tsopmo, Pierre Tane, Johnson Ayafor, Joseph D Connolly, John L Teem

Study Type : In Vitro Study

Additional Links

Substances : [Trichilia rubescens : CK\(1\) : AC\(1\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Topic: [Enzyme Therapy](#)

[Plant source enzymes may provide ideal acid-stable adjunct to pancreatin derived enzymes.](#) - GMI Summary

Pubmed Data : Metabolism. 2010 Feb;59(2):285-92. Epub 2009 Oct 1. PMID: [7865271](#)

Article Published Date : Feb 01, 2010

Authors : J M Tursi, P G Phair, G L Barnes

Additional Links

Substances : [Enzyme Therapy : CK\(371\) : AC\(75\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Category: [Toxic Ingredients](#)

Topic: [Bisphosphonates](#)

[Bisphosphonates used for osteoporosis in patients with cystic fibrosis increases bone mineral density without increasing bone quality/strength, while causing bone pain and flu-like symptoms.](#) - GMI Summary

Pubmed Data : Cochrane Database Syst Rev. 2009(4):CD002010. Epub 2009 Oct 7. PMID: [19821288](#)

Article Published Date : Jan 01, 2009

Authors : Louise S Conwell, Anne B Chang

Study Type : Human Study

Additional Links

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#), [Osteoporosis : CK\(1102\) : AC\(205\)](#)

Problem Substances : [Bisphosphonates : CK\(510\) : AC\(61\)](#)

Topic: [Corticosteroid](#)

[Corticosteroids contribute to muscle weakness in Cystic Fibrosis patients.](#) - GMI Summary

Pubmed Data : J Appl Physiol. 2003 Oct;95(4):1379-84. Epub 2003 Jun 13. PMID: [12807896](#)

Article Published Date : Oct 01, 2003

Authors : Sinead C Barry, Charles G Gallagher

Study Type : Human Study

Additional Links

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Problem Substances : [Corticosteroid : CK\(166\) : AC\(16\)](#), [Hydrocortisone : CK\(30\) : AC\(3\)](#), [Prednisone : CK\(152\) : AC\(17\)](#)

Topic: [Hydrocortisone](#)

[Corticosteroids contribute to muscle weakness in Cystic Fibrosis patients.](#) - GMI Summary

Pubmed Data : J Appl Physiol. 2003 Oct;95(4):1379-84. Epub 2003 Jun 13. PMID: [12807896](#)

Article Published Date : Oct 01, 2003

Authors : Sinead C Barry, Charles G Gallagher

Study Type : Human Study

Additional Links

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Problem Substances : [Corticosteroid : CK\(166\) : AC\(16\)](#), [Hydrocortisone : CK\(30\) : AC\(3\)](#), [Prednisone : CK\(152\) : AC\(17\)](#)

Topic: [Potato](#)

[Potato crisp consumption without pancreatic enzyme supplementation has been reported to cause distal intestinal obstruction in patients with cystic fibrosis.](#) - GMI Summary

Pubmed Data : Eur J Pediatr. 2007 Sep;166(9):969-70. Epub 2006 Nov 24. PMID: [17124589](#)

Article Published Date : Sep 01, 2007

Authors : F Kopriva, K Micháľková, M Zápalka, J Malý

Study Type : Human Study

Additional Links

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Problem Substances : [Potato : CK\(43\) : AC\(11\)](#)

Topic: [Prednisone](#)

[Corticosteroids contribute to muscle weakness in Cystic Fibrosis patients.](#) - GMI Summary

Pubmed Data : J Appl Physiol. 2003 Oct;95(4):1379-84. Epub 2003 Jun 13. PMID: [12807896](#)

Article Published Date : Oct 01, 2003

Authors : Sinead C Barry, Charles G Gallagher

Study Type : Human Study

Additional Links

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Problem Substances : [Corticosteroid : CK\(166\) : AC\(16\)](#), [Hydrocortisone : CK\(30\) : AC\(3\)](#), [Prednisone : CK\(152\) : AC\(17\)](#)

Category: Therapeutic Actions

Topic: [Acupuncture](#)

[Acupuncture is effective for managing symptoms and illnesses associated with cystic fibrosis.](#) - GMI Summary

Pubmed Data : Am J Chin Med. 2005;33(1):151-6. PMID: [15844843](#)

Article Published Date : Jan 01, 2005

Authors : Yuan-Chi Lin, Helen Ly, Brenda Golianu

Study Type : Human Study

Additional Links

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Therapeutic Actions : [Acupuncture : CK\(1313\) : AC\(144\)](#)

Topic: [Exercise: Inspiratory Muscle Training](#)

[Inspiratory muscle training is associated with significant improvements in physical endurance and strength in patients with Cystic Fibrosis.](#) - GMI Summary

Pubmed Data : Respir Med. 2005 Nov;99(11):1440-58. PMID: [15894478](#)

Article Published Date : Nov 01, 2005

Authors : E Lynne Geddes, W Darlene Reid, Jean Crowe, Kelly O'Brien, Dina Brooks

Study Type : Human Study

Additional Links

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Therapeutic Actions : [Exercise: Inspiratory Muscle Training : CK\(40\) : AC\(4\)](#)

Topic: [Massage/Therapeutic Touch](#)

[Physical therapy and massage reduces pain and improves the ease of breathing in adults with cystic fibrosis.](#) - GMI Summary

Pubmed Data : J Cyst Fibros. 2009 Jan;8(1):79-81. Epub 2008 Aug 20. PMID: [18718820](#)

Article Published Date : Jan 01, 2009

Authors : Annemarie Lee, Melissa Holdsworth, Anne Holland, Brenda Button

Study Type : Human Study

Additional Links

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Therapeutic Actions : [Massage/Therapeutic Touch : CK\(720\) : AC\(73\)](#), [Physical Therapy : CK\(30\) : AC\(3\)](#)

Topic: [Physical Therapy](#)

[Physical therapy and massage reduces pain and improves the ease of breathing in adults with cystic fibrosis.](#) - GMI Summary

Pubmed Data : J Cyst Fibros. 2009 Jan;8(1):79-81. Epub 2008 Aug 20. PMID: [18718820](#)

Article Published Date : Jan 01, 2009

Authors : Annemarie Lee, Melissa Holdsworth, Anne Holland, Brenda Button

Study Type : Human Study

Additional Links

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Therapeutic Actions : [Massage/Therapeutic Touch : CK\(720\) : AC\(73\)](#), [Physical Therapy : CK\(30\) : AC\(3\)](#)

Topic: [Breastfeeding](#)

[Prolonged breastfeeding is beneficial in children with cystic fibrosis and may protect them against decline of pulmonary function.](#) - GMI Summary

Pubmed Data : Acta Paediatr. 2007 Aug;96(8):1228-32. Epub 2007 Jun 21. PMID: [17590186](#)

Article Published Date : Aug 01, 2007

Authors : Carla Colombo, Diana Costantini, Laura Zazzeron, Nadia Faelli, Maria Chiara Russo, Diana Ghisleni, Italo Gatelli, Marcello Giovannini, Enrica Riva, Rolf Zetterström, Carlo Agostoni

Study Type : Review

Additional Links

Substances : [Breast Milk : CK\(408\) : AC\(46\)](#)

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#), [Postnatal Care: Breastfeeding : CK\(209\) : AC\(25\)](#)

Therapeutic Actions : [Breastfeeding : CK\(657\) : AC\(67\)](#)

Category: Anti-Therapeutic Actions

Topic: [Vaccination: Influenza](#)

[There is currently no evidence from randomised studies that influenza vaccine given to people with CF is of benefit to them.](#) - GMI Summary

Pubmed Data : Cochrane Database Syst Rev. 2009 Oct 7;(4):CD001753. PMID: [19821281](#)

Article Published Date : Oct 07, 2009

Authors :

Poonam Dharmaraj, Rosalind L Smyth

Study Type : Meta Analysis

Additional Links

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#)

Additional Keywords : [Vaccine Research : CK\(20\) : AC\(1\)](#)

Anti Therapeutic Actions : [Vaccination: Influenza : CK\(343\) : AC\(35\)](#)

[Annual influenza vaccination hampers the development of virus-specific CD8\(+\) T cell responses necessary to protect against influenza infection.](#) - GMI Summary

Pubmed Data : J Virol. 2011 Nov ;85(22):11995-2000. Epub 2011 Aug 31. PMID: [21880755](#)

Article Published Date : Nov 01, 2011

Authors : Rogier Bodewes, Pieter L A Fraaij, Martina M Geelhoed-Mieras, Carel A van Baalen, Harm A W M Tiddens, Annemarie M C van Rossum, Fiona R van der Klis, Ron A M Fouchier, Albert D M E Osterhaus, Guus F Rimmelzwaan

Study Type : Human Study

Additional Links

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#), [Influenza : CK\(714\) : AC\(102\)](#)

Anti Therapeutic Actions : [Vaccination: All : CK\(3596\) : AC\(266\)](#), [Vaccination: Influenza : CK\(343\) : AC\(35\)](#)

Adverse Pharmacological Actions : [Immunosuppressive : CK\(143\) : AC\(23\)](#)

Topic: [Vaccination: All](#)

[Annual influenza vaccination hampers the development of virus-specific CD8\(+\) T cell responses necessary to protect against influenza infection. - GMI](#)

Summary

Pubmed Data : J Virol. 2011 Nov ;85(22):11995-2000. Epub 2011 Aug 31. PMID: [21880755](#)

Article Published Date : Nov 01, 2011

Authors : Rogier Bodewes, Pieter L A Fraaij, Martina M Geelhoed-Mieras, Carel A van Baalen, Harm A W M Tiddens, Annemarie M C van Rossum, Fiona R van der Klis, Ron A M Fouchier, Albert D M E Osterhaus, Guus F Rimmelzwaan

Study Type : Human Study

Additional Links

Diseases : [Cystic Fibrosis : CK\(703\) : AC\(77\)](#), [Influenza : CK\(714\) : AC\(102\)](#)

Anti Therapeutic Actions : [Vaccination: All : CK\(3596\) : AC\(266\)](#), [Vaccination: Influenza : CK\(343\) : AC\(35\)](#)

Adverse Pharmacological Actions : [Immunosuppressive : CK\(143\) : AC\(23\)](#)

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