



GENESTRA
BRANDS®

HMF Fit For School Powder

Children's immune support formula

- Helps to reduce incidence of upper respiratory tract infection (URTI) symptoms
- Provides 12.5 billion CFU of live microorganisms that temporarily modify gut flora
- Includes 50 mg of vitamin C and 1,000 IU of vitamin D per dose
- Convenient powder format free of artificial colours or flavours

HMF Fit For School Powder includes a combination of research-driven probiotic strains and vitamin C that helps to reduce incidence of URTI symptoms in children. In a recent clinical trial, 57 schoolchildren were randomized to receive either a placebo tablet or the probiotic strains included in HMF Fit For School Powder's formula plus 50 mg of vitamin C daily for six months. Children in the probiotic plus vitamin C group had 33% less incidence of URTI, a significant decrease in the number of days with URTI symptoms, and a 30% decrease in school absenteeism.¹ Each heaped scoop also includes 25 mcg (1,000 IU) of vitamin D for additional immune support and to promote adequate vitamin D status for healthy bone development.



EACH HEAPED SCOOP (1 g) CONTAINS:

Vitamin C (ascorbic acid)	50 mg
Vitamin D (cholecalciferol)	25 mcg/1000 IU
Probiotic Consortium	12.5 billion CFU
<i>Lactobacillus acidophilus</i> (CUL-60 & CUL-21)	10 billion CFU
<i>Bifidobacterium animalis</i> subsp. <i>lactis</i> (CUL-34) & <i>Bifidobacterium bifidum</i> (CUL-20)	2.5 billion CFU

Non-Medicinal Ingredients: Potato maltodextrin

Recommended Dose

Children (1 year and older): In a glass, add 1 heaped scoop to water or juice and dissolve completely before administration to children. Take once daily, at least 2 to 3 hours before or after taking antibiotics, or as recommended by your healthcare practitioner. Immune Support: Take for a minimum of 4 weeks to see beneficial effects.

Size
30 g Powder

Product Code
10388

NPN 80088730



Non
GMO



Gluten
Free



Soy
Free



Dairy
Free



No
FOS



Vegetarian

REFERENCES

1. Garaiova, I. Muchova, J. Nagyova, Z. Wang, D. Li. et al. Eur J Clin Nutr. 2015; 69: 373-379.

Tried, tested and true.

GenestraBrands.ca | 1.800.263.5861

© 2019 Seroyal. All rights reserved.

This product may not be right for everyone. Always read and follow the label. For more information, visit GenestraBrands.ca.

HMF Fit For School Powder

Scientific Rationale:

Several clinical trials have observed an association between probiotic supplementation and reduced incidence of upper respiratory tract infection (URTI) symptoms.^{1,2} A recent meta-analysis of 23 randomized, double-blind, placebo-controlled trials found that probiotic supplementation – particularly with *Lactobacillus* and *Bifidobacterium* strains – reduces the duration of URITs in otherwise healthy children. Probiotic supplementation was associated with significantly fewer days of illness, shorter illness episodes and fewer numbers of days absent from day care/school, compared to placebo.³

One randomized, double-blind, placebo-controlled study evaluated the effect of HMF probiotics and vitamin C on immune health in young schoolchildren (Figure 1).⁴ Fifty-seven children (aged 3-6) attending preschool were randomized to consume one chewable placebo or probiotic/vitamin C tablet (the same probiotic consortium and vitamin C level present in HMF Fit For School Powder) daily for six months.⁴ When compared to the placebo, the HMF/vitamin C combination significantly promoted upper respiratory tract health and immune function.⁴ Specifically, children in the probiotic plus vitamin C group had 33% less incidence of URTI, a significant decrease in the number of days with URTI symptoms, a 30% decrease in school absenteeism incidence rate, and a significant reduction in cough medication usage.⁴ This research was used to develop HMF Fit For School Powder, which also includes vitamin D for additional immune support.⁴

Supplementation with vitamin D has been shown to have beneficial effects on the function of a variety of immune cells, including dendritic cells, macrophages, and T cells.⁵ Low vitamin D status has also been associated with an increased risk of respiratory viral infection.^{6,7} In a recent controlled trial involving children, daily supplementation with 1,000 IU of vitamin D for three months significantly increased plasma vitamin D levels and promoted a healthy cytokine balance.⁸ Following vitamin D supplementation, levels of the pro-inflammatory cytokines IL-2, IL-4, IL-6, and IFN- γ were all significantly reduced.⁸ In addition to decreasing the pro-inflammatory immune response, vitamin D promotes protein production from white blood cells to further support immune health.^{9,10}

Vitamin D is also well-recognized for its beneficial effects on bone health. It helps absorb and use calcium, an important structural component of bones and teeth.¹¹ Vitamin D is especially critical for proper bone development in children and adolescents.¹² As a result, low vitamin D status in these populations has been associated with impaired bone growth, decreased bone mineralization, and lower bone mineral density.^{13,14} However, research has reported that vitamin D supplementation supports bone mineral density in

deficient youth, and may reduce the risk of bone fracture (which affects nearly one-third of children by age 17) in young, healthy children.^{12,14} Vitamin D also plays an important role in achieving peak bone mass, which occurs between the ages of 18 and 23 and has a major impact on bone health in later life.¹²

Canadian children are at an increased risk of vitamin D insufficiency due to inadequate sun exposure, limited consumption of vitamin D-containing foods, and low intake of vitamin D supplements.¹⁵ Specifically, vitamin D production from the skin is limited in the winter months due to Canada's latitude, while the use of sunscreen and long sleeve clothing reduce its production in the summer.^{13,15} Additionally, the few foods that naturally contain vitamin D (fatty fish, egg yolk, nuts and some mushrooms) may not be commonly consumed by children, and dietary restrictions may further limit the consumption of dairy products fortified with vitamin D.^{12,15} An analysis of the Canadian Health Measures Survey (2012-2013) found that one-quarter of the 1,800 children sampled did not meet the recommended daily intake of 600 IU of vitamin D.¹⁵ However, the researchers reported that vitamin D supplementation can help individuals achieve adequate vitamin D status, closing the gap between intake levels and recommended values.¹⁵

The ProChild Study⁴

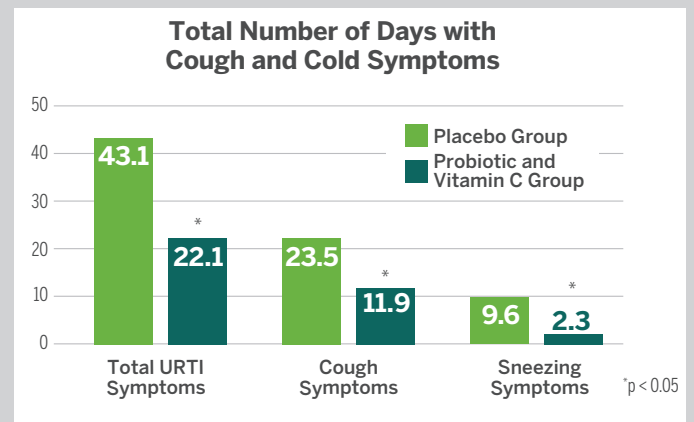


Figure 1: HMF Fit For School Powder's probiotic strains, in combination with vitamin C, significantly decreased the number of days with cough and cold symptoms.

REFERENCES

- Leyer, G.J., Li, S., Mubasher, M.E., Reifer, C., Ouwehand, A.C. *Pediatrics*. 2009; 124(2): e172-9.
- King, S., Glanville, J., Sanders, M.E., Fitzgerald, A., Varley, D. *Br J Nutr*. 2014; 112(1): 41-54.
- Wang, Y., Li, X., Ge, T., Xiao, Y., Liao, Y., et al. *Medicine (Baltimore)*. 2016; 95(31): e4509.
- Garaiova, I., Muchova, J., Nagyova, Z., Wang, D., Li, et al. *Eur J Clin Nutr*. 2015; 69: 373-379.
- Rolf, L., Muris, A.H., Hupperts, R., Damoiseaux, J. *Ann. N.Y. Acad. Sci.* 2014; 1317: 84-91.
- Bryson, K.J., Nash, A.A., Norval, M. *Epidemiol. Infect.* 2014; 2(9): 1789-1801.
- Sabetta, J., DePetrillo, P., Cipriani, R., Smardin, J., Burns, A., Landry, M. *PLoS One*. 2010; 5(6): e11088.
- Di Filippo, P., Scaparrotta, A., Rapino, D., Cingolani, A., Attanasi, M., et al. *Int Arch Allergy Immunol*. 2015; 166: 91-96.
- Grant, W.B., Boucher, B.J. *Biol Res Nurs*. 2011; 13(2): 120-133.
- Hughes, D.A., Norton, R. *Clin Exp Immunol*. 2009; 158(1): 20-25.
- Weichselbaum, E., Buttriss, J.L. *Nutr Bull*. 2014; 39: 9-73.
- Saggese, G., Vierucci, F., Boot, A.M., Czech-Kowalska, J., Weber, G., et al. *Eur J Pediatr*. 2015; 174(5): 565-76.
- Hazeli, T.I., Pham, T.T., Jean-Philippe, S., Finch, S.L., El Hayek, J., et al. *J Clin Densitom*. 2015; 18(1): 60-7.
- Anderson, L.N., Heong, S.W., Chen, Y., Thorpe, K.E., Adeli, K., et al. *Am J Epidemiol*. 2017; 185(12): 1255-1262.
- Munasinghe, L.L., Willows, N.D., Yuan, Y., Ekwawu, J.P., Veugelers, P.J. *Nutrients*. 2017; 9(9): 945.

Tried, tested and true.

GenestraBrands.ca | 1.800.263.5861

© 2019 Seroyal. All rights reserved.

This product may not be right for everyone. Always read and follow the label. For more information, visit GenestraBrands.ca.



GENESTRA
BRANDS®