

# L-Blend: Proven Health Support Based on Wine and Alpha-Cyclodextrin

L-Blend is an innovative ingredient created from wine with the addition of alpha-cyclodextrin ( $\alpha$ -CD) — a natural soluble dietary fiber derived from corn starch. The unique technology allows preserving and stabilizing the active compounds of wine and ensuring their high bioavailability. Scientific data confirms that the combination of wine polyphenols and  $\alpha$ -CD has a synergistic effect aimed at supporting metabolic health, vascular protection, and healthy aging.

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### Antioxidant Protection and Aging Deceleration

A systematic review of clinical studies (Fragopoulou et al., Nutrition Research Reviews, 2018) shows that wine polyphenols:

- Increase blood antioxidant levels by 15-30%
- Suppress free radical formation, protecting vessels and tissues from age-related damage
- Provide neuroprotection and cognitive function support

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### Anti-inflammatory Effect

Chronic inflammation is a key mechanism in the development of many diseases. According to the review by Fragopoulou et al., in 7 out of 9 clinical studies, wine or wine extract consumption led to:

- Reduction of C-reactive protein (CRP) levels by 20-35%
- Decrease in pro-inflammatory cytokines IL-6 and TNF- $\alpha$
- Improvement of the overall inflammatory profile

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### Protection Against Thrombosis and Vascular Support

Wine polyphenols, especially in combination with  $\alpha$ -CD, improve microcirculation and reduce platelet aggregation:

- Platelet aggregation decreased by 30-50% after just 4 weeks of regular consumption of 250 ml of red wine per day
- Thromboxane B2 levels, a marker of platelet activity, decreased significantly — especially in people with increased cardiovascular risk

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### Reduction of Post-meal Glucose Levels (Alpha-cyclodextrin)

Alpha-CD, as a soluble dietary fiber, helps slow carbohydrate absorption and normalize blood glucose levels:

- According to a meta-analysis of 7 clinical studies (Wittkowski et al., 2022), taking 5-10 g of  $\alpha$ -CD with food reduced postprandial glycemic peak by up to 50%
- Insulin levels remained stable, which is important for metabolic disorders and prediabetes

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### Gut Microbiota Support

Both components of L-Blend act as prebiotics, nourishing beneficial bacteria:

- A review (Gosciniak et al., Foods, 2024) shows that  $\alpha$ -CD increases the amount of Bacteroides and Akkermansia, enhances the production of butyrate and other SCFAs
- Polyphenols enhance this effect by suppressing pathogens and stimulating the growth of beneficial microflora
- Studies have observed improved microbiota and weight reduction in animals receiving  $\alpha$ -CD with their diet

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### Improvement of Lipid Metabolism

Alpha-CD can bind saturated fats and bile acids:

- In a clinical study of people receiving 6 g of  $\alpha$ -CD per day, LDL levels decreased by 12%, and total cholesterol by 10% over 12 weeks
- Wine contributes additionally by promoting an increase in HDL cholesterol

## Summary Benefits of L-Blend

Effect	Confirmed Results and Publications
Post-meal sugar reduction	–50% (Wittkowski, 2022)
CRP and inflammation reduction	–20-35% (Fragopoulou, 2018)
Antioxidant protection	+15-30% antioxidants (Fragopoulou, 2018)
Platelet aggregation reduction	–30-50% (Fragopoulou, 2018)
LDL cholesterol reduction	–12% (Gosciniak, 2024)
Beneficial microbiota growth	+Bacteroides, SCFAs ↑ (Gosciniak, 2024)

## References

1. Wittkowski et al., 2022 – Meta-analysis on the effects of  $\alpha$ -cyclodextrin on postprandial glucose (Regulatory Toxicology and Pharmacology)
2. Gosciniak et al., 2024 – Impact of  $\alpha$ -cyclodextrin on gut microbiota and metabolic health (Foods)
3. Fragopoulou et al., 2018 – Review of clinical trials on wine and cardiovascular/inflammatory markers (Nutrition Research Reviews)