Commentary

Current medical opinion is moving to the view that almost all the chronic degenerative age-related diseases – coronary artery disease, cancer, hypertension, arthritis, diabetes, stroke and dementia – have *one* key driver in common: chronic, sub-clinical inflammation in the body.

Sub-clinical generally means that the inflammatory process is not noticeable. And because it's an unseen, unfelt, silent threat, the idea is only just surfacing in public consciousness.

That's why these test results are so important.

You can't see it or feel it – but reducing internal inflammation is vital for your health

"NutriShield is a bio-active nutraceutical to be used to help prevent inflammatory disease of any kind" (VivaCell 2012)

Dr Paul Clayton, the designer of **NutriShield®**, says:

> "Although the foundation of health is a good diet, we know that most people are depleted in many nutrients – such as selenium, vitamins E, D3 and K2 – and so a properly designed A-Z vitamin and mineral supplement is often indicated.
>
> "This will do little, however, to reduce chronic inflammatory stresses. You have to go further and include the anti-inflammatory Omega 3 fatty acids, and the more recently discovered anti-inflammatory plant-derived nutrients such as curcumin, flavonoids and isoflavones. For truly comprehensive defence you need to add the uniquely protective compounds beta carotene, lycopene, lutein, Q10, betaine and others.
>
> "This research shows that it is the combination of all the elements in **NutriShield®**, that is the key to its efficacy. Think of it as a nutritional jigsaw: you need a complete range of nutrients which all fit together to build and maintain health and defend against age-related disease."

Separate tests have demonstrated **NutriShield**'s ability to counteract free radical damage. **NutriShield®** had 16 times more ability to absorb free radicals than the leading A-Z vitamin and mineral brand (ORAC tests 2006).

The combination of anti-inflammatories and anti-oxidants also helps counteract the visible signs of ageing—inner health is reflected in outer appearance.

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FINAL REPORT JANUARY 2012

IMMUNO-MODULATORY EFFECTS OF NUTRISHIELD®

VIVACELL Biotechnology GmbH

Aims of the Project

To study the anti-inflammatory effects of varying concentrations of **NutriShield®** on a range of inflammatory bio-markers (cytokines) induced by the introduction of *E. coli* bacteria to human blood cells.

The Inflammatory Bio-Markers

Interleukin 1 beta	IL1beta
Tumor Necrosis Factor alpha	TNF alpha
Interleukin 6	IL6
Interleukin 8	IL8
Prostaglandin E2	PGE2
Isoprostane 8-Iso-PGF2-alpha	Isoprostan

Executive Summary

Our data clearly provide evidence that **NutriShield®** creates potent anti-inflammatory and anti-oxidant effects.

NutriShield® is therefore a bioactive nutraceutical to be used to help prevent inflammatory disease of any kind.

Our data find a synergistic effect of the several ingredients of **NutriShield®** since the combination was more effective than the summary of the single ingredients.

In particular the vitamin/mineral caplet on its own had little anti-inflammatory effect.

Lead Researcher
Dr Bernd L Fiebich
January 2012

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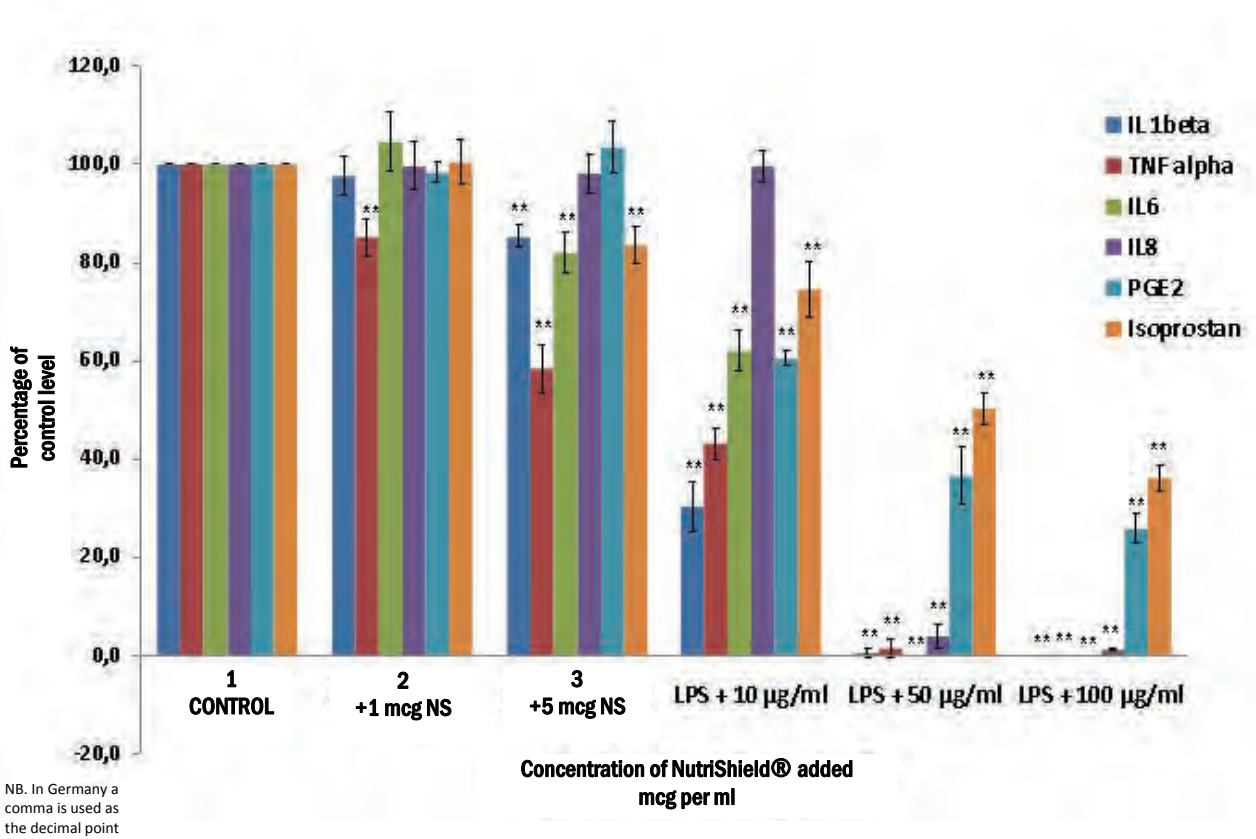
Results

Key

The bar chart shows 6 sets of data, where the coloured columns represent the level of each inflammatory bio-marker.

The left-hand set is the control, where after introduction of *E.coli* bacteria (to trigger inflammation) the level of each bio-marker is measured and set at 100%.

Each following data-set shows the measured level of the bio-markers as a percentage of the control in the presence of increasing concentrations of **NutriShield®**.



NB. In Germany a comma is used as the decimal point

Data

Set	**NutriShield®** concentration	Equivalent of daily NS dose
1	nil	nil
2	**1** microgram per millilitre	1/250
3	**5** mcg per ml	1/50
4	**10** mcg per ml	1/25
5	**50** mcg per ml	1/5
6	**100** mcg per ml	2/5 (40%)

Interpretation

The results show that NutriShield® — even at a level of two-fifths or 40% of the normal daily dose — ELIMINATED the four key inflammatory cytokine bio-markers, and REDUCED the two prostaglandin bio-markers by over 60% to their desirable basal level*.

*** Note**

These prostaglandins are normally present at a basal level in blood cells in the essential cyclooxygenase-1 (COX-1) form. Undesirable COX-2 prostaglandins are induced and present during inflammation, so the aim is to reduce the activity and levels of COX-2 without the inhibition of COX-1. The pattern of reduction implies that was the case here.

Details

Interleukin 1 beta

IL1beta release was significantly inhibited from 5mcg/ml of **NutriShield®**, with maximal effect at 50mcg/ml.

Tumor Necrosis Factor alpha

NutriShield® potently and dose-dependently inhibited TNFalpha release, starting at 1mcg/ml, with maximal inhibition at 50mcg/ml.

Interleukin 6

IL6 release was significantly inhibited, starting at 5mcg/ml of **NutriShield®**, with maximal effects using 50mcg/ml.

Interleukin 8

Significant inhibition of IL8 was achieved by using 50mcg/ml **NutriShield®**, and almost complete elimination with 100mcg/ml.

Prostaglandin E2*

PGE2 release was dose-dependently prevented by **NutriShield®**, starting at 5mcg/ml, with maximal effects at 100mcg/ml, which decreased PGE2 to its basal level.

8-Isoprostane*

Significant Isoprostane inhibition was achieved from the low dose of 5mcg/ml and dose-dependently further decreased with maximal effects at 100mcg/ml, reducing by over 60% to basal level.

Since Isoprostane is also known to be a marker for free radicals, the data suggests that NutriShield also prevents free radical formation in immune cells.