



Systematic Bioinformatics Review and
In Silico Analysis
Abstracts

Commissioned by Nature For Life®
for REDOXX®



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Systematic Bioinformatics Review of REDOXX® Ingredients on Liver Detoxification

ABSTRACT

The systematic bioinformatics review and *in silico* analysis of REDOXX® was performed to integrate over 2,500 *in vitro* and *in vivo* laboratory experiments recorded in 102 studies that were conducted across 56 institutions over the past 26 years. The analysis reveals four (4) mechanisms of action involved in liver detoxification at the molecular systems level in humans. The systematic bioinformatics review results reveal that eight (8) ingredients have an effect on the mechanisms of action involved in liver detoxification.

KEY FINDINGS

1. CytoSolve® review analysis identified four (4) major biomolecular processes involved in liver detoxification:
 - a. Oxidative stress
 - b. Lipid peroxidation
 - c. Nrf-2 pathway for antioxidant enzyme synthesis
 - d. Inflammation
2. Bioactive compounds in REDOXX were found to affect all the four mechanisms of action involved in improving liver detoxification.
3. Liver detoxification is enhanced by lowering oxidative stress, lowering lipid peroxidation, increasing antioxidant enzyme synthesis, and reducing inflammation.

ACKNOWLEDGEMENT

This research was made possible through funding provided by Nature For Life, which is the formulator and sole provider of REDOXX.

Systematic Bioinformatics Review and *In Silico* Analysis of REDOXX®

ABSTRACT

The systematic bioinformatics review and *in silico* analysis of REDOXX® was performed to integrate over 3,000 *in vitro* and *in vivo* laboratory experiments recorded in 94 studies that were conducted across 64 institutions over the past 36 years. The analysis reveals two (2) mechanisms of action involved in immune function at the molecular systems level in humans. The *in silico* results reveal that four (4) active ingredients in REDOXX were synergistically efficacious in affecting three (3) biomarkers associated with immune function.

KEY FINDINGS

1. CytoSolve® *in silico* analysis identified and computationally modeled two (2) major biomolecular processes involved in immune function:
 - a. TLR-4 signaling pathway
 - b. IL-6 signaling pathway
2. Bioactive compounds in REDOXX were found to have a positive synergistic effect on both biomolecular processes involved in immune function.
3. REDOXX improved immune function by downregulating TLR-4 signaling pathway and downregulating IL-6 signaling pathway.

ACKNOWLEDGEMENT

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Systematic Bioinformatics Review and *In Silico* Analysis of REDOXX®

ABSTRACT

The systematic bioinformatics review and *in silico* analysis of REDOXX® was performed to integrate over 5,000 *in vitro* and *in vivo* laboratory experiments recorded in 122 studies that were conducted across 98 institutions over the past 23 years. The analysis reveals three (3) mechanisms of action involved in anxiety at the molecular systems level in humans. The *in silico* results reveal that seven (7) active ingredients in REDOXX were synergistically efficacious in affecting three (3) biomarkers associated with anxiety.

KEY FINDINGS

1. CytoSolve® *in silico* analysis identified and computationally modeled three (3) major biomolecular processes involved in anxiety:
 - a. Endocannabinoid synthesis
 - b. NMDAR signaling
 - c. Oxidative stress
2. Bioactive compounds in REDOXX were found to have a positive synergistic effect on the three (3) biomolecular processes involved in anxiety.
3. REDOXX alleviated anxiety by increasing endocannabinoid synthesis, downregulating NMDAR signaling, and reducing oxidative stress.

ACKNOWLEDGEMENT

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Systematic Bioinformatics Review and *In Silico* Analysis of REDOXX®

ABSTRACT

The systematic bioinformatics review and *in silico* analysis of REDOXX® was performed to integrate over 3,500 *in vitro* and *in vivo* laboratory experiments recorded in 97 studies that were conducted across 83 institutions over the past 29 years. The analysis reveals two (2) mechanisms of action involved in energy at the molecular systems level in humans. The *in silico* results reveal that five (5) active ingredients in REDOXX were synergistically efficacious in affecting two (2) biomarkers associated with energy.

KEY FINDINGS

1. CytoSolve® analysis *in silico* analysis identified and computationally modeled two (2) major physiological processes governing energy:
 - a. Glycolysis pathway
 - b. TCA Cycle
2. Bioactive compounds in REDOXX were found to have a positive synergistic effect on all two (2) physiological processes involved in enhancing energy.
3. REDOXX improved energy production by upregulating glycolysis and TCA cycle.

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