

## **Detoxification Pathways Mini Kit**

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## **Assess the detoxification ability of your patients**

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### **Detoxification Pathways mini kit**

- **Detoxification status of your patient**
- **Examine Phase 1 & Phase 2 detoxification pathways. We need to ensure that both phases are completed successfully. Phase 1 by-products very damaging.**

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### **Detoxification Pathways mini kit**

- **First column is used to identify which pathway/s are dysfunctional**
- **Second column are substances that are known to be detoxified through that particular pathway so if the patient weakens to these, indicative of dysfunction**

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### **Detoxification Pathways mini kit**

#### **Detoxification dysfunction:**

**A weak muscle strengthening to pathways in column 1**

**AND**

**A strong muscle weakening to substances in column 2. Then identify remedies from this weakness**

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### **Phase 1**

- **CYP450 composite vial contains all the cytochrome P450 enzymes involved in Phase 1 detoxification of chemical toxins:**
  - **CYP1A1, CYP1A2, CYP1B1, CYP2B4, CYP2C9, CYP2C19, CYP2D6, CYP2E1, CYP3A4**

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### Phase 1

- These enzymes detoxify certain chemicals, drugs and hormones
- Result in the production of superoxide, can lead to free radical tissue damage
- These enzymes produce intermediary metabolites - are processed via Phase 2 pathways

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### Phase 1 Substrates Vial

CYP450 enzymes metabolises certain external & internal substances.

CYP1A1 - PAHs, 2-estrogens

CYP1A2 - 16-estrogens

CYP1B1 - 4-estrogens & synthetic estrogens

CYP2A6 – nicotine

CYP2B4 - phenobarbital

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### Phase 1 Substrates Vial

CYP2C9 – warfarin

CYP2C19 and CYP2D6 – most antidepressants & antipsychotics

CYP2E1 – ethanol, solvents, components in tobacco smoke

CYP3A4 – 50% pharmaceutical drugs  
Induced by St John's Wort

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### **Phase 1 Nutritional Remedies**

**Vitamin B2 – Riboflavin-5-Phosphate, FAD, FADH<sub>2</sub>**

**Vitamin B3 – Niacin, Niacinamide(non-flush), NAD, NADH, NADP, NADPH**

**Vitamin B6 – Pyridoxine, P5P**

**Folates – folic acid, CH<sub>2</sub>H<sub>4</sub>folate, 5MTHF, Folinic acid**

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### **Phase 1 Nutritional Remedies**

**Vitamin B12 – Hydroxycobalamin, Methylcobalamin**

**Vitamin B complex capsules/liquid**

**Glutathione and Ribose capsules**

**Branched chain amino acids**

**Flavonoids – phytonutrients – Hesperidin Plus capsules**

**Phospholipids – Phosphatidylcholine capsules**

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### **Antioxidant Protective Nutrients**

**Smart Vitamin A oil**

**Vitamin C, Smart Vitamin C**

**Vitamin E, Mixed tocopherols, Wheat germ oil capsules**

**Selenium – liquid, phosphate, methionine**

**Zinc – choose the appropriate form**

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### **Antioxidant Protective Nutrients**

Liquid Zinc  
Zinc chloride liquid  
Zinc sulphate liquid  
Colloidal zinc  
Zinc SA capsules  
Triple Zinc capsules  
Smart Zinc capsules

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### **Antioxidant Protective Nutrients**

Zinc picolinate capsules  
Zinc ascorbate capsules  
Zinc citrate capsules

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### **Phase 2 Pathways**

To identify which pathway/s are not working effectively. Start from a weak muscle:

Methylation tested by SAM  
Glutathione  
Acetylation  
Glucoronidation

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### **Phase 2 Pathways**

**Sulfation  
Sulfite oxidase  
Glycine  
Taurine**

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### **Phase 2 Pathways**

**Using the toxic substrates in column 2 we can identify the pathway that is dysfunctional and test remedies against this.**

**The substrate is positioned in the test kit along side the relevant pathway.**

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### **Phase 2 Pathways**

**Sellotape - adhesive  
4-hydroxynonenol – given off by rancid fats  
Isoniazide – drug to treat TB  
Benzoic acid – food preservative  
Acetone – solvent  
DDT – pesticide, non bio-degradable**

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### **Phase 2 Pathways**

**Metabisulfite – preservative  
wines/beers. Kills off the yeast.  
Chemical, pharmaceutical,  
photographic industries. Water &  
sewage treatment plants.**

**Sodium benzoate – preserver in  
foods, pharmaceutical industry,  
toiletries and beauty products**

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### **Phase 2 Pathways**

**Hypochlorite – household bleach.  
Also made by the white cells,  
neutrophils, to kill gram positive  
bacteria.**

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### **Phase 2 Pathways Remedies**

**In kit two combination products:**

**Nutrient Phase 1 & 2 capsules  
Allclear capsules**

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**Phase 2 Pathways Remedies**

**Methylation – Sellotape**

**Methionine SA capsules**

**Methylcobalamin**

**5MTHF**

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**Phase 2 Pathways Remedies**

**Glutathione – 4-Hydroxynonenol**

**Glutathione & Ribose capsules**

**Pyridoxal-5-Phosphate (P5P)**

**Zinc**

**Vitamin C**

**Garlic capsules**

**NAC SA capsules (short term)**

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**Phase 2 Pathways Remedies**

**Acetylation – Isoniazide**

**Vitamin B5 – pantothenic acid  
capsules/liquid**

**CoA Factors capsules**

**Magnesium**

**Vitamin C**

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**Phase 2 Pathways Remedies**

**Acetylation – Isoniazide**

**Acetyl groups:**

**N-acetylglucosamine caps**

**Acetyl Carnitine caps**

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**Phase 2 Pathways Remedies**

**Glucoronidation – Benzoic acid**

**Inulin (Glucuronic acid) caps**

**Flax seed oil caps**

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**Phase 2 Pathways Remedies**

**Sulfation – Acetone/DDT**

**Taurine SA capsules**

**Cysteine SA capsules**

**MSM capsules**

**Alpha lipoic acid capsules**

**Garlic capsules**

**Glucosamine sulphate caps**

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**Phase 2 Pathways Remedies**

**Sulfite oxidase – Metabisulfite**

**Molybdenum liquid**

**Molybdenum capsules**

**Iron**

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**Phase 2 Pathways Remedies**

**Glycine – Sodium benzoate**

**Glycine SA capsules**

**Pyridoxal-5-Phosphate**

**Riboflavin-5-Phosphate**

**FAD/FADH2**

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**Phase 2 Pathways Remedies**

**Glycine – Sodium benzoate**

**Folates:**

**Folic acid**

**CH2H4folate**

**5MTHF**

**Folinic acid**

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**Phase 2 Pathways Remedies**

**Glycine – Sodium benzoate**

**Magnesium:**

**Magnesium SA caps**

**Smart Magnesium caps**

**Magnesium ascorbate cap**

**Magnesium citrate caps**

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**Phase 2 Pathways Remedies**

**Glycine – Sodium benzoate**

**Magnesium:**

**Magnesium liquid**

**Magnesium chloride**

**Magnesium Phosphate**

**Colloidal magnesium**

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**Phase 2 Pathways Remedies**

**Taurine - Hypochlorite**

**Taurine SA capsules**

**NAD capsules**

**Vitamin C capsules**

**Smart Vitamin A oil**

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