

Biolab Medical Unit

9 Weymouth Street, London W1W 6DB, England

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07 (1)

Biolab reference: MWUG/SMYH/D07

Patient: MR JOHN GRAHAME HOITE Hoy Ge

Date: 23-04-2007

DOB: 17-10-1955

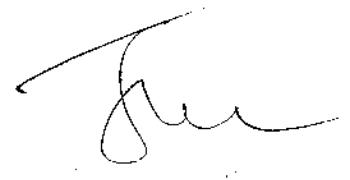
Your reference:

Sex: MALE

Doctor: DR SARAH MYHILL
UPPER WESTON

Sample Date: 23-04-2007

SAMPLE:	TEST:	RESULT:	UNITS:	REFERENCE RANGE:
LEUCOCYTE	MAGNESIUM	35	ng/1000	42 - 76
LEUCOCYTE	ZINC	5.0	ng/mil.cell	5.4 - 8.2
FUNCTIONAL	SODase INHIBITION	47	%	>40



Biolab Medical Unit

07 (2)

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Biolab reference: MWUG/Sayff/Doz Patient: Mr John Graham ~~HOTTE~~ (17/10/11)
 Date: 23-04-2007 Doctor: Dr Sarah Myhill
 Hoyle

PESTICIDES AND RELATED SUBSTANCES IN FAT CELLS

Please note: these tests are performed for medical purposes only. We cannot enter into legal disputes.
 (In the table, PLOA is the provisional Limit of Acceptability based on reference data from 57 controls. We do not have this data for all of the substances that may be found but we add extra comments where we can).

The following pesticide-related substances were detected in this FAT CELL sample:
 (Note the units, mg/kg, relate to 1000X the level used for serum levels)

NAME (some trade names are listed over page)	mg/kg	Note over page	PLOA and control range (n = 57) (*may be hazardous at ANY level ND = not detected).
Aldrin	TRACE	1	< 0.01 (0 - 0.013)
Dieldrin	0.03	1	< 0.04 (0 - 0.05)
Lindane	0.25	1	< 0.05 (0 - 0.05)* ←
DDT	0.07	1	< 0.18 (0.02 - 0.21)
DDE	0.18	1	< 0.21 (0.03 - 0.23)
DDD	0.02	1	< 0.04 (0 - 0.04)
HCB	0.40	1	< 0.55 (0.03 - 0.57)
MIREX	0.04	1	< 0.05 (0 - 0.05)
TOXAPHENE	0.11	1	< 0.07 (0 - 0.08) ←
PENTACHLOROPHENOL	0.09	2	< 0.18 (0 - 0.21)
TRICHLOROPHENOL(S)	TRACE	2	< 0.08 (0 - 0.07)
p-DICHLOROBENZENE	0.72	2	< 0.42 (0.01 - 0.52)
o-DICHLOROBENZENE	± 0.03	2	< 0.05 (0 - 0.06)
DICHLOROPROP (2,4-D)	ND		< 0.20 (0 - 0.21)*
PCBs (total)	0.24	1	< 0.30 (0.02 - 0.41)
PBBs(BDE) FLAME RETARDANTS	± 0.30	*...*	< 0.05 (0.01 - 0.08) ←
ORGANOPHOSPHATES (TOTAL)	TRACE	3	< 0.10 (0 - 0.19)*
CARBARYL (SEVIN)	ND	4	0.15 (0 - 0.16)
a-NAPHTHOL (FROM CARBARYL)	ND	4	< 0.03 (0 - 0.04)*
CARBAMATES (TOTAL)	TRACE	4	< 0.28 (0 - 0.30)
Level too low for identification			
DOCOSOL (KELTHANE)	0.15	1	< 0.10 ←

See over page for a list of the major pesticides that have been looked for using gas-liquid chromatography. The list is not exhaustive. Some other pesticides may not be detected but it may be impossible for us to identify some chemicals that are found. If this occurs it will be noted above.

Nanogen™ MX1 and MX3 pesticide quality control materials are run routinely. Additional individual pesticide standards are prepared in our own laboratory.

Further comments (if appropriate):

Dr John McLaren Howard DSc FACN

Dr Stephen Davies MA BM BCh FACN

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07 (2)

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Biolab reference: MWUG/Smyth/ D07

Patient: Mr John Grahams HOTTIE (17/10/55)
Hoy Ge

Date: 23-04-2007

Doctor: Dr Sarah Myhill

VOLATILE ORGANIC COMPOUNDS IN FAT CELLS

(tests performed for medical purposes only. We cannot enter into legal disputes.)

	Result mg/kg		Population average (provisional findings)
Benzene	0.9	*	0.4
Toluene	0.27	*	0.15
Ethylbenzene	<0.1		<0.1
Xylene(s)	0.15		0.2
Styrene	<0.1		<0.1
Trimethylbenzene(s)	<0.1		0.1
Dichloromethane	<0.1		<0.1
Chloroform	0.24	*	0.12
1,1,1-Trichloroethane ...	<0.05		0.05
Trichloroethylene	<0.05		<0.1
Tetrachloroethylene	0.19		0.15
Dichlorobenzene(s)	0.75	*	0.5
Bromodichloromethane	<0.1		<0.1
Carbon Tetrachloride ...	<0.1		0.1

Aliphatic compounds

N-Pentane	0.75	*	<0.4
2,2-Dimethylbutane	<0.1		<0.1
Cyclopentane	<0.1		<0.1
2-Methylpentane	0.25		0.3
3-Methylpentane	0.90		1.1
N-Hexane	1.9	*	1.6
N-Heptane	0.45	*	<0.2

Additional findings/comments:



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 E-mail: lab@biolab.co.uk Internet: www.biolab.co.uk

Biolab reference: MWUG/Smith/DO7 Patient: Mr John Graham HOTTEToyce (1710-55)
 Date: 23-04-2007 Doctor Dr Sarah Myhill

DNA ADDUCTS (genomic DNA from leucocytes)

See over page for background to the test and technical information

Findings (organic chemical adducts):

We check for adducts to the following groups of chemicals and some individual compounds. These are circled if found and detailed below. *Aromatic amines (general)* Nitrosamines *Halogenated phenols & benzenes*
Vinylhalides Acrylamide Aldehydes Chloro-ethylenes Aflatoxins & mycotoxins Malondialdehyde
Lindane *Toxaphene other organochlorine pesticide Tetrachlorvinphos other organophosphate pesticide*
 others:-

Findings (metal adducts):

We check for adducts to the following metals. These are circled if found and detailed below: *Lead Cadmium*
Mercury Aluminium Antimony Arsenic Strontium Tin Nickel *Copper Manganese Chromium*
Cobalt Iron Zinc - normally associated with DNA others:-

Detailed findings:

Total DNA extracted from leucocytes = 55 ug (Reference 30 - 60*)

ADDUCT OR CHEMICAL GROUP	QUANTITY ng/ml*	Associated GENE(s) (if identified)	RELATED TO (if known)
1) NITROSAMINES	→ 10	Spread.	SMOKING/PASSIVE SM. SMOKED FOOD BURNT ORGANIC MATTER
2) LINDANE	12	Probably on Zn/Cu-50 gene. (chromosome 21)	Oestrogenic and probably Carcinogenic
3) NICKEL	Trace	/	Known Carcinogen.
4)			
<u>Zinc</u> Normally DNA-associated	20 Ref: 21 - 74*	<u>Zinc-DNA association</u> <u>Low**</u> Normal High (circle the finding)	**[poor zinc association: DNA is vulnerable to toxic insult (especially by toxic metals) and mutations]

* quantitative results are related back to and expressed as ug or ng in the leucocytes in 1ml whole blood.

Further comments on a separate sheet Yes/No

dna-adducts-quant-report.doc (John McLaren Howard)



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Biolab Reference: *MWUG/Smyth/B07* Patient: *Mr John Grahame HOLTE (17/10/55)*

Date: *23-04-2007* Doctor: *Dr Sarah Myhill*

ATP (adenosine triphosphate), studies on neutrophils

ATP is hydrolysed to ADP and phosphate as the major energy source in muscle and other tissues. It is regenerated by oxidative phosphorylation of ADP in the mitochondria. When aerobic metabolism provides insufficient energy, extra ATP is generated during the anaerobic breakdown of glucose to lactic acid. ATP reactions require magnesium. ADP to ATP conversion can be blocked by environmental contaminants as can the translocator [TL] in the mitochondrial membrane. [TL] efficiency is also sensitive to pH and other metabolic factor changes. [TL] defects may demand excessive ADP to AMP conversion (not re-converted to ADP or through to ATP). Defects in Mg-ATP, ADP - ATP conversion and enzyme or [TL] blocking can all result in chronic fatigue - a factor in any disease where biochemical energy availability is reduced.

ATP whole cells:

With excess Mg added (Standard method of measuring ATP)	<i>1.56</i> nmol/10 ⁶ cells	1.6 - 2.9	<i>0.97</i>
Endogenous Mg only (Measured ATP result is lowered during intracellular magnesium deficiency)	<i>0.88</i> nmol/10 ⁶ cells	0.9 - 2.7	
Ratio ATP/ATP ^{Mg}	<i>0.56</i>	> 0.65	<i>0.86</i>

Results (circle): ATP normal ATP low Mg normal Mg low *¹

ADP to ATP conversion efficiency (whole cells):

ATP ^{Mg} (from above)	<i>1.56</i> nmol/10 ⁶ cells (1*)	1.6 - 2.9	
ATP ^{Mg} (inhibitor present)	<i>0.20</i> nmol/10 ⁶ cells (2*)	< 0.3	
ATP ^{Mg} (inhibitor removed)	<i>0.90</i> nmol/10 ⁶ cells (3*)	> 1.4	
ADP to ATP efficiency [(3* - 2*) / (1* - 2*)] x 100 =	<i>51.5%</i>	> 60	<i>0.85</i>

Results (circle): Inhibitor site: normal % blocked

Conversion (ADP to ATP): normal poor very poor *²

ADP-ATP TRANSLOCATOR [TL] (mitochondria, not whole cells):

	ATP (pmol/10 ⁶ cells)	Ref. range	change %	Results (circle):
Start	<i>305</i>	290 - 700		
[TL] 'out'	<i>386</i>	410 - 950	<i>26.6</i> > 35%	function: normal <u>poor</u>
[TL] 'in'	<i>45</i>	140 - 330	<i>85.2</i> 55 - 75%	function: normal <u>poor</u>
[TL] 'in' shows	<u>Rapid depletion on energy demand</u>			Normal Restricted access to mt-ATP

*¹ Low ATP and poor Mg availability. *² No blocking but poor ADP → ATP re-conversion. *³ Poor provision of ATP by the mitochondria and rapid depletion on energy demand.

JMA

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Biolab Reference: MWUG/Smyth/D07 Patient: Mr John Graham HORTON (17/10/58)
Date: 23-04-2007 Doctor: Dr Sarah Myhill

Cell-Free DNA in blood plasma

Patient's result:

Cell-Free DNA 11.3 ug DNA per litre of plasma

Reference range
up to 9.5

Comments: Some increase in cell degradation.

Method summary* Blood plasma is incubated with EDTA, a detergent and a proteinase prior to salting out of the proteins. The DNA is then precipitated with ethyl alcohol and re-dissolved in Tris-acetate-EDTA buffer. The DNA is measured in an ultramicro cuvette using a Pharmacia GeneQuant™ analyser.

*Schmidt B, Weickmann S, Witt C, Fleischhacker M. Improved Method for Isolating Cell-Free DNA
Clin Chem 2005; 51(8); 1561-2

Notes that may be helpful:

Background. Most of the cell-free DNA present in blood plasma is associated with the degradation of cells. Very low levels are present in healthy people. Increases are associated with serious illnesses such as malignancy, stroke, autoimmune diseases, severe infections and chronic fatigue syndrome.

Cell-Free DNA in chronic fatigue syndrome (CFS). In studies performed at Biolab, 88% of 87 CFS patients had increased levels in their blood plasma. 93% of the 75 patients where the duration of the disease was between four months and five years and nine of the 12 patients whose illness had persisted for more than five years and up to 14 years had positive findings.

The levels of Cell-Free DNA equate well with the severity of CFS and they reliably follow clinical improvement and, in some patients who have been monitored regularly, increases have effectively predicted clinical relapse. CFS is an addition to the list of diseases where Cell-Free DNA has prognostic as well as diagnostic implications.

Copies of a referenced internal document entitled **Cell-Free DNA** are available from Biolab.



Dr John McLaren Howard DSc FACN