Fapas® – Food Chemistry Proficiency Test Report 27222

Gluten in Cake Mix

May-June 2018

PARTICIPANT LABORATORY NUMBER

Participants can log in to Fapas® SecureWeb at any time to obtain their laboratory number for this proficiency test.

Laboratory numbers are displayed in SecureWeb next to the download link for this report.

REPORT INTEGRITY

Fapas® reports are distributed as digitally signed Adobe® PDF files. When these files are opened with Adobe® Reader v9 or later, a blue ribbon and information bar indicates that the certificate has been validated. This confirms that the author of the report is Fapas® and that the document has not been altered since it was signed [1, 2].

The integrity of hard copies of Fapas® reports cannot be assured in this way, i.e. printed copies are not controlled. A watermark stating this appears on every page when a Fapas® report is printed.

End users of Fapas® reports should ensure that either the PDF file they are viewing displays a valid Fapas® digital signature or that the content of their hard copy exactly matches the content of a PDF file that displays a valid Fapas® digital signature.

QUALITY SYSTEMS

Fapas® – Food Chemistry is accredited by UKAS as complying with the requirements of ISO/IEC 17043:2010 [3].

Fera is an ISO 9001 certified organisation.

UKAS PROFICIENCY TESTING
0009

Fera hereby excludes all liability for any claim, loss, demands or damages of any kind whatsoever (whether such claims, loss, demands or damages were foreseeable, known or otherwise) arising out of or in connection with the preparation of any technical or scientific report, including without limitation, indirect or consequential loss or damage; loss of actual or anticipated profits (including loss of profits on contracts); loss of revenue; loss of business; loss of opportunity; loss of anticipated savings; loss of goodwill; loss of reputation; loss or damage to or corruption of data; loss of use of money or otherwise, and whether or not advised of the possibility of such claim, loss demand or damages and whether arising in tort (including negligence), contract or otherwise. This statement does not affect your statutory rights.

Nothing in this disclaimer excludes or limits Fera liability for: (a) death or personal injury caused by Fera negligence (or that of its employees, agents or directors); or (b) the tort of deceit; [or (c) any breach of the obligations implied by Sale of Goods Act 1979 or Supply of Goods and Services Act 1982 (including those relating to the title, fitness for purpose and satisfactory quality of goods);] or (d) any liability which may not be limited or excluded by law (e) fraud or fraudulent misrepresentation.

The parties agree that any matters are governed by English law and irrevocably submit to the non-exclusive jurisdiction of the English courts.

SUMMARY

1. The test materials for Fapas® – Food Chemistry proficiency test 27222 were dispatched in May 2018. Each participant received two cake mix test materials to be analysed for gluten.

2. Qualitative results for this proficiency test are summarised as follows:

   Test Material 27222A: **POSITIVE** for Gluten (56% consensus)

   Test Material 27222B: **NEGATIVE** for Gluten (97% consensus)

3. An assigned value (x_a) was determined for Ingenasa Ingezim Gluten Quick (30.GL2.K2), Neogen Veratox for Gliadin R5 (8510), R-Biopharm Ridascreen Gliadin (R7001) and Romer Labs AgraQuant ELISA Gluten G12 (COKAL0200) and in conjunction with the standard deviation for proficiency (σ_p) was used to calculate a z-score for each result. However, those for Neogen Veratox for Gliadin R5 (8510) and Romer Labs AgraQuant ELISA Gluten G12 (COKAL0200) are given *for information only.*

4. Results for this proficiency test are summarised as follows:

analyte (in 27222A)	assigned value, x_a (mg/kg)	number of scores, $\|z\| \leq 2$	total number of scores	% $\|z\| \leq 2$
Ingenasa Ingezim Gluten Quick (30.GL2.K2)	30.4	4	4	100
Neogen Veratox for Gliadin R5 (8510)	*20.7*	*6*	7	*86*
R-Biopharm Ridascreen Gliadin (R7001)	31.9	87	90	97
Romer Labs AgraQuant ELISA Gluten G12 (COKAL0200)	*21.9*	*5*	6	*83*

italics indicate for information only

CONTENTS

1. INTRODUCTION

1.1. Proficiency Testing

Proficiency testing aims to provide an independent assessment of the competence of participating laboratories. Together with the use of validated methods, proficiency testing is an essential element of laboratory quality assurance.

Further details of the Fapas® – Food Chemistry proficiency testing scheme are available in our protocols [4, 5].

2. TEST MATERIAL

2.1. Preparation

Preparation of the samples for this proficiency test was sub-contracted to a laboratory meeting the quality requirements of the scheme's accreditation [3].

Test material A was prepared from a gluten free cake mix procured from a retail source, this was then mixed with gluten at a spiking concentration of 25 mg/kg of gluten powder, to produce a homogenous test material.

Test material B was prepared solely from the gluten free cake mix.

Samples were stored at ambient temperature until dispatch.

2.2. Homogeneity

To test for homogeneity, randomly selected test materials were analysed in duplicate. Testing was sub-contracted to a laboratory meeting the quality requirements of the scheme's accreditation [3].

These data showed sufficient homogeneity and were not included in the subsequent calculation of the assigned values.

2.3. Dispatch

The start date was 02 May 2018. Test materials were sent to 151 participants.

3. RESULTS

The instructions for reporting results were as follows:

You are required to determine the presence of **gluten** and/or quantify the level of **gluten** present in the test material. PLEASE NOTE:

- Thoroughly mix each test material before analysis to ensure that you take a representative sample.
- Please report results against the ELISA kit used during your analysis. These appear in a list format on the electronic submission of results page.
- You may submit results for as many different ELISA kits as you wish. For all other kits listed please select the not tested box.
- Please indicate your limit of detection (lod) or limit of quantification (loq) for all results.

- Report your results for each test material **as reported** by the ELISA kit/method used do NOT apply a conversion factor, this is to ensure that all results reported for a specific ELISA kit are in the same format. The statistical analysis and report will then reflect the specific units of each kit.
- If you are unsure how to report your result, please contact Fapas®.
- **Qualitative Results**
  - Please indicate whether **gluten** was detected or not detected in the test materials.
- **Quantitative Results**
  - The level of **gluten**, in the test materials, should be expressed in **mg/kg, as received**. If you cannot detect the presence of **gluten** in a test material please state not detected (nd) in that test material. If you can detect but not quantify the level of **gluten** in a test material please state not quantifiable (nq) in that test material.

Results were submitted by 130 participants (86%) before the closing date for this test, 21 June 2018.

Each participant was given a laboratory number, assigned in order of receipt of results. The qualitative results are given in Table 1. Quantitative results are given Table 2 to Table 4.

Participants' comments are given in Table 5.

The analytical methods used by each participant are summarised in APPENDIX I.

4. QUALITATIVE ANALYSIS OF DATA

4.1. Reported Results

Table 1 presents the submitted results reporting whether gluten was detected or not detected in test materials 27222A and 27222B respectively.

Qualitative data are tabulated in the report and are denoted as 'S' for satisfactory or 'NS' for not satisfactory for gluten deliberately added during preparation, or annotated as 'A' for agrees or 'D' for disagrees for gluten not deliberately added, after comparison of the result with the consensus.

Several participants appear to have selected 'not detected' when they meant 'not tested' for analytes other than those for which they gave a result. This has inflated the number of laboratories not detecting gluten.

5. STATISTICAL EVALUATION OF RESULTS

The results submitted by participants were statistically analysed in order to provide an assigned value for Ingenasa Ingezim Gluten Quick (30.GL2.K2), Neogen Veratox for Gliadin R5 (8510), R-Biopharm Ridascreen Gliadin (R7001) and Romer Labs AgraQuant ELISA Gluten G12 (COKAL0200). The assigned values were then used in combination with the standard deviation for proficiency, σ_p, to calculate a z-score [6] for each result. The procedure is detailed in the relevant protocols [4, 5].

Further background on the procedure followed can be found in the IUPAC International Harmonised Protocol for the Proficiency Testing of Analytical Chemistry Laboratories [7].

5.1. Calculation of the Assigned Value, x_a

The assigned value, x_a, for Ingenasa Ingezim Gluten Quick (30.GL2.K2), Neogen Veratox for Gliadin R5 (8510), R-Biopharm Ridascreen Gliadin (R7001) and Romer Labs AgraQuant ELISA Gluten G12 (COKAL0200) was derived from the consensus of the results submitted by participants.

The following results were excluded from the calculation of the assigned value:

i) non numerical results i.e. qualitative or semi-quantitative results,

ii) results reported as approximately 10, 100 or 1000 × greater or smaller than the majority of submitted results (as these were considered to be reporting errors),

iii) those results not using a specified kit.

Test material 27222A

For results using the 'Ingenasa Ingezim Gluten Quick (30.GL2.K2)' kit, the median was chosen as the assigned value due to the low number of data points. See Table 2 and Figure 1.

For results using the 'Neogen Veratox for Gliadin R5 (8510)' kit, the median was chosen as the assigned value due to the low number of data points, however due to the high associated uncertainty this is issued *for information only*. See Table 2 and Figure 2.

For results using the 'R-Biopharm Ridascreen Gliadin (R7001)' kit, this procedure was straightforward and the robust mean was chosen as the assigned. See Table 2 and Figure 3.

For results using the 'Romer Labs AgraQuant ELISA Gluten G12 (COKAL0200)' kit, the median was chosen as the assigned value due to the low number of data points, however due to the high associated uncertainty this is issued *for information only*. See Table 2 and Figure 4.

There were insufficient data points to meaningfully assess any other results submitted. However, participants' results are given in Table 3.

The assigned values for Ingenasa Ingezim Gluten Quick (30.GL2.K2), Neogen Veratox for Gliadin R5 (8510), R-Biopharm Ridascreen Gliadin (R7001) and Romer Labs AgraQuant ELISA Gluten G12 (COKAL0200) are shown in Table 6.

Test material 27222B

There were insufficient data points to meaningfully assess any results submitted. However, participants' results are given in Table 4.

A graphical representation of the spread of results for gluten can be seen in Figure 5.

5.2. Standard Deviation for Proficiency, σ_p

The standard deviation for proficiency, σ_p, was set at a value that reflects best practice for the analyses in question.

For all analytes, σ_p was calculated using fitness-for-purpose criteria based on expert advice.

The values for σ_p used to calculate z-scores from the reported results of this test are given in Table 6.

5.3. Individual z-Scores

Participants' z-scores were calculated as:

$$z = \frac{(x - x_a)}{\sigma_p}$$

where x = the participant's reported result,
x_a = the assigned value
and σ_p = the standard deviation for proficiency.

Participants' z-scores for Ingenasa Ingezim Gluten Quick (30.GL2.K2), Neogen Veratox for Gliadin R5 (8510), R-Biopharm Ridascreen Gliadin (R7001) and Romer Labs AgraQuant ELISA Gluten G12 (COKAL0200) are given in Table 2 and shown as histograms in Figures 1–4. Those for Neogen Veratox for Gliadin R5 (8510) and Romer Labs AgraQuant ELISA Gluten G12 (COKAL0200) are given *for information only*. It is possible for the z-scores published in this report to differ slightly from the z-score that can be calculated using the formula given above. These differences arise from the necessary rounding of the actual assigned values and standard deviations for proficiency prior to their publication in Table 6.

The number and percentage of z-scores in the range $-2 \leq z \leq 2$ for Ingenasa Ingezim Gluten Quick (30.GL2.K2), Neogen Veratox for Gliadin R5 (8510), R-Biopharm Ridascreen Gliadin (R7001) and Romer Labs AgraQuant ELISA Gluten G12 (COKAL0200) are given in Table 7.

6. INTERPRETATION OF SCORES

In normal circumstances, over time, about 95% of z-scores will lie in the range $-2 \leq z \leq 2$. Occasional scores in the range $2 < |z| < 3$ are to be expected, at a rate of 1 in 20. Whether or not such scores are of importance can only be decided by considering them in the context of the other scores obtained by that laboratory.

Scores where $|z| > 3$ are to be expected at a rate of about 1 in 300. Given this rarity, such z-scores very strongly indicate that the result is not fit-for-purpose and almost certainly requires investigation.

The consideration of a set or sequence of z-scores over time provides more useful information than a single z-score. Examples of suitable methods of comparison are provided in the IUPAC International Harmonised Protocol for the Proficiency Testing of Analytical Chemistry Laboratories [7].

7. REFERENCES

1 Adobe Approved Trust List, https://helpx.adobe.com/acrobat/kb/approved-trust-list2.html#Whatisit accessed 01/06/2017.

2 GlobalSign PDF Signing Tool, https://www.globalsign.com/en/pdf-signing/ accessed 01/06/2017.

3 ISO/IEC 17043:2010, Conformity assessment – General requirements for proficiency testing.

4 Fapas®, 2017, Protocol for Proficiency Testing Schemes, Version 6, April 2017, Part 1 – Common Principles.

5 Fapas®, 2017, Protocol for Proficiency Testing Schemes, Version 5, April 2017, Part 2 – Fapas® Food Chemistry scheme (FAPAS).

6 AMC Tech Brief No. 74, z-Scores and other scores in chemical proficiency testing – their meanings, and some common misconceptions, *Anal. Methods*, 2016, **8**, 5553.

7 Thompson, M., Ellison, S.L.R. and Wood, R., 2006, The International Harmonised Protocol for the Proficiency Testing of Analytical Chemistry Laboratories, *Pure Appl. Chem.*, **78**, No. 1, 145–196.

Table 1: Qualitative Results, Gluten in Cake Mix

laboratory number	analyte					
	Gluten (27222A) consensus: 56% **detected** (positive) (expected result: detected)			Gluten (27222B) consensus: 97% **not detected** (negative) (expected result: not known)		
	result	LoD	z-score	result	LoD	z-score
001						
002						
003	not detected		NS	not detected		A
004	not detected		NS	not detected		A
005						
006						
007						
008						
009	not detected		NS	not detected		A
010	not detected		NS	not detected		A
011	Detected	5	S	Not Detected	5	A
012	not detected		NS	not detected		A
013						
014	Detected	5	S	Not Detected	5	A
015	not detected		NS	not detected		A

S = satisfactory NS = not satisfactory
A = agrees D = disagrees

Table 1 (continued): Qualitative Results, Gluten in Cake Mix

laboratory number	analyte					
	Gluten (27222A) consensus: 56% **detected** (positive) (expected result: detected)			Gluten (27222B) consensus: 97% **not detected** (negative) (expected result: not known)		
	result	LoD	z-score	result	LoD	z-score
016						
017	not detected		NS	not detected		A
018	not detected		NS	not detected		A
019						
020	Detected	3	S	Not Detected	3	A
021	not detected		NS	not detected		A
022						
023						
024						
025						
026	Detected	1	S	Not Detected	1	A
027						
028						
029						
030						

S = satisfactory NS = not satisfactory
A = agrees D = disagrees

Table 1 (continued): Qualitative Results, Gluten in Cake Mix

laboratory number	analyte					
	Gluten (27222A) consensus: 56% **detected** (positive) (expected result: detected)			Gluten (27222B) consensus: 97% **not detected** (negative) (expected result: not known)		
	result	LoD	z-score	result	LoD	z-score
031						
032	not detected		NS	not detected		A
033	Detected	> 20mg/kg	S	Not Detected	> 20mg/kg	A
034						
035						
036	Detected	1.0	S	Not Detected	1.0	A
037	not detected		NS	not detected		A
038	Detected	5	S	Not Detected	5	A
039						
040						
041						
042	Detected	3	S	Not Detected	3	A
043*	Detected	â?¤ 0.4	S	Not Detected	â?¤ 0.4	A
044	not detected		NS	not detected		A
045						

* LoD contains non-standard characters
S = satisfactory NS = not satisfactory
A = agrees D = disagrees

Table 1 (continued): Qualitative Results, Gluten in Cake Mix

laboratory number	analyte					
	Gluten (27222A) consensus: 56% **detected** (positive) (expected result: detected)			Gluten (27222B) consensus: 97% **not detected** (negative) (expected result: not known)		
	result	LoD	z-score	result	LoD	z-score
046	Detected	3	S	Not Detected	3	A
047	not detected		NS	not detected		A
048	not detected		NS	not detected		A
049	not detected		NS	not detected		A
050	not detected		NS	not detected		A
051	not detected		NS	not detected		A
052	Detected	1	S	Not Detected	1	A
053						
054						
055	Detected	20	S	Not Detected	20	A
056						
057						
058	Detected	>20	S	Not Detected	>20	A
059						
060	not detected		NS	not detected		A

S = satisfactory NS = not satisfactory
A = agrees D = disagrees

Table 1 (continued): Qualitative Results, Gluten in Cake Mix

laboratory number	analyte					
	Gluten (27222A) consensus: 56% **detected** (positive) (expected result: detected)			Gluten (27222B) consensus: 97% **not detected** (negative) (expected result: not known)		
	result	LoD	z-score	result	LoD	z-score
061	Detected	3	S	not detected		A
062				Not Detected		A
063						
064	not detected		NS	not detected		A
065						
066						
067						
068	Detected	5	S	Not Detected	5	A
069	Detected	<5	S	Not Detected	<5	A
070						
071	Detected	5.0	S	Not Detected	5.0	A
072	Detected	5 mg/kg	S	Not Detected	5 mg/kg	A
073						
074						
075						

S = satisfactory NS = not satisfactory
A = agrees D = disagrees

Table 1 (continued): Qualitative Results, Gluten in Cake Mix

laboratory number	analyte					
	Gluten (27222A) consensus: 56% **detected** (positive) (expected result: detected)			Gluten (27222B) consensus: 97% **not detected** (negative) (expected result: not known)		
	result	LoD	z-score	result	LoD	z-score
076						
077	not detected		NS	not detected		A
078						
079						
080						
081						
082						
083	Detected	5.00	S	Not Detected	5.00	A
084						
085	Detected	5	S	Not Detected	5	A
086						
087						
088						
089	not detected		NS	not detected		A
090						

S = satisfactory NS = not satisfactory
A = agrees D = disagrees

Table 1 (continued): Qualitative Results, Gluten in Cake Mix

laboratory number	analyte					
	Gluten (27222A) consensus: 56% **detected** (positive) (expected result: detected)			Gluten (27222B) consensus: 97% **not detected** (negative) (expected result: not known)		
	result	LoD	z-score	result	LoD	z-score
091						
092						
093	not detected		NS	not detected		A
094	Detected	20	S	Not Detected	20	A
095	not detected		NS	not detected		A
096	Not Detected	20	NS	Not Detected	20	A
097	Detected	1.80	S	Detected	1.80	D
098	Detected	0.4 mg/kg	S	Detected	0.4 mg/kg	D
099						
100	Detected	1,5	S	Not Detected	1,5	A
101	Detected	5	S	Not Detected	5	A
102						
103	not detected		NS	not detected		A
104						
105						

S = satisfactory NS = not satisfactory
A = agrees D = disagrees

Table 1 (continued): Qualitative Results, Gluten in Cake Mix

laboratory number	analyte					
	Gluten (27222A) consensus: 56% **detected** (positive) (expected result: detected)			Gluten (27222B) consensus: 97% **not detected** (negative) (expected result: not known)		
	result	LoD	z-score	result	LoD	z-score
106						
107	Detected	20	S	Not Detected	20	A
108						
109						
110	Detected	3	S	Not Detected	3	A
111	Detected	20	S	Not Detected	20	A
112						
113	Detected	~1	S	Not Detected	~1	A
114						
115	not detected		NS	not detected		A
116						
117						
118						
119						
120						

S = satisfactory NS = not satisfactory
A = agrees D = disagrees

Table 1 (continued): Qualitative Results, Gluten in Cake Mix

laboratory number	analyte					
	Gluten (27222A) consensus: 56% **detected** (positive) (expected result: detected)			Gluten (27222B) consensus: 97% **not detected** (negative) (expected result: not known)		
	result	LoD	z-score	result	LoD	z-score
121	Detected	<3	S	Not Detected		A
122	Detected	3.0	S	Not Detected	3.0	A
123						
124						
125						
126						
127	Detected		S	Not Detected		A
128						
129	Detected	1	S	Not Detected	1	A
130						

S = satisfactory NS = not satisfactory
A = agrees D = disagrees

Table 2: Results and z-Scores, Gluten in 27222A

laboratory number	analyte											
	Ingenasa Ingezim Gluten Quick (30.GL2.K2) assigned value: 30.4 mg/kg			Neogen Veratox for Gliadin R5 (8510) assigned value: *20.7* mg/kg			R-Biopharm Ridascreen Gliadin (R7001) assigned value: 31.9 mg/kg			Romer Labs AgraQuant ELISA Gluten G12 (COKAL0200) assigned value: *21.9* mg/kg		
	result	LoQ	z-score	result	LoQ	z-score	result	LoQ	z-score	result	LoQ	z-score
001							23.78	5	-1.0			
002							34.46		0.3			
003	not detected			not detected			30.3	5	-0.2	not detected		
004	not detected			not detected			19.5	5	-1.6	not detected		
005							28.6	5	-0.4			
006							30.9	5	-0.1			
007												
008							27.84	5	-0.5			
009	not detected			not detected			34.4	5	0.3	not detected		
010	not detected			not detected			not detected			25.4	4.0	*0.6*
011				24.8	5	*0.8*						
012	not detected			not detected			32.6	10	0.1	not detected		
013							30.3	5	-0.2			
014							30.6	5	-0.2			
015	not detected			not detected			37	10	0.6	not detected		

z-scores outside |z| >2 are shown in **bold,** see Section 5 *italics indicate for information only*

Table 2 (continued): Results and z-Scores, Gluten in 27222A

laboratory number	analyte											
	Ingenasa Ingezim Gluten Quick (30.GL2.K2) assigned value: 30.4 mg/kg			Neogen Veratox for Gliadin R5 (8510) assigned value: *20.7* mg/kg			R-Biopharm Ridascreen Gliadin (R7001) assigned value: 31.9 mg/kg			Romer Labs AgraQuant ELISA Gluten G12 (COKAL0200) assigned value: *21.9* mg/kg		
	result	LoQ	z-score	result	LoQ	z-score	result	LoQ	z-score	result	LoQ	z-score
016							30	5	-0.2			
017	not detected			not detected			not detected			not detected		
018	not detected			not detected			26.6	<5	-0.7	not detected		
019												
020							26	5	-0.7			
021	not detected			not detected			38.7	5.0	0.9	not detected		
022							23.3	5	-1.1			
023							28.79	5.00	-0.4			
024							32.0	5.0	0.0			
025							43.96	5.00	1.5			
026							37	5	0.6			
027							44.86	5	1.6			
028							36	5	0.5			
029												
030							26.66	5	-0.7			

z-scores outside |z| >2 are shown in **bold,** see Section 5 *italics indicate for information only*

Table 2 (continued): Results and z-Scores, Gluten in 27222A

laboratory number	analyte											
	Ingenasa Ingezim Gluten Quick (30.GL2.K2) assigned value: 30.4 mg/kg			Neogen Veratox for Gliadin R5 (8510) assigned value: *20.7* mg/kg			R-Biopharm Ridascreen Gliadin (R7001) assigned value: 31.9 mg/kg			Romer Labs AgraQuant ELISA Gluten G12 (COKAL0200) assigned value: *21.9* mg/kg		
	result	LoQ	z-score	result	LoQ	z-score	result	LoQ	z-score	result	LoQ	z-score
031				35.8	5	*2.9*						
032	not detected			not detected			40	5	1.0	not detected		
033												
034							26.73	5.00	-0.6			
035							28	5	-0.5			
036							31	5.0	-0.1			
037	not detected			not detected			34.72	8	0.4	not detected		
038				20	5	*-0.1*						
039							26.82	5	-0.6			
040							33.94	5	0.3			
041							not detected					
042							30	5	-0.2			
043	not detected			not detected			not detected			not detected		
044	not detected			not detected			36.82	<5	0.6	not detected		
045												

z-scores outside |z| >2 are shown in **bold,** see Section 5 *italics indicate for information only*

Table 2 (continued): Results and z-Scores, Gluten in 27222A

laboratory number	analyte											
	Ingenasa Ingezim Gluten Quick (30.GL2.K2) assigned value: 30.4 mg/kg			Neogen Veratox for Gliadin R5 (8510) assigned value: *20.7* mg/kg			R-Biopharm Ridascreen Gliadin (R7001) assigned value: 31.9 mg/kg			Romer Labs AgraQuant ELISA Gluten G12 (COKAL0200) assigned value: *21.9* mg/kg		
	result	LoQ	z-score	result	LoQ	z-score	result	LoQ	z-score	result	LoQ	z-score
046							28	5	-0.5			
047	not detected			not detected			not detected			not detected		
048	not detected			not detected			49.8	10	**2.2**	not detected		
049	not detected			not detected			44.0	10	1.5	not detected		
050	not detected			not detected			36		0.5	not detected		
051	not detected			not detected			35	5.0	0.4	not detected		
052	not detected			not detected			24.42	5	-0.9	not detected		
053				23.6	5.0	*0.6*						
054							27.0	5	-0.6			
055												
056										18.3	4	*-0.6*
057							27.71	5	-0.5			
058												
059							24.61	2.5	-0.9			
060	not detected			not detected			43	5	1.4	not detected		

z-scores outside |z| >2 are shown in **bold,** see Section 5 *italics indicate for information only*

Table 2 (continued): Results and z-Scores, Gluten in 27222A

laboratory number	analyte											
	Ingenasa Ingezim Gluten Quick (30.GL2.K2) assigned value: 30.4 mg/kg			Neogen Veratox for Gliadin R5 (8510) assigned value: *20.7* mg/kg			R-Biopharm Ridascreen Gliadin (R7001) assigned value: 31.9 mg/kg			Romer Labs AgraQuant ELISA Gluten G12 (COKAL0200) assigned value: *21.9* mg/kg		
	result	LoQ	z-score	result	LoQ	z-score	result	LoQ	z-score	result	LoQ	z-score
061							40.1	5	1.0			
062							28	5	-0.5			
063							32	5.0	0.0			
064	not detected			not detected			32.05	5	0.0	not detected		
065							30.5	20	-0.2			
066										15	4	*-1.3*
067							33.67	5	0.2			
068							38.17	5	0.8			
069	not detected			not detected			27.5	<5	-0.5	not detected		
070							32.4	5	0.1			
071							29.9	5.0	-0.2			
072												
073							30.9	5	-0.1			
074										45.36	4.00	*4.3*
075										16.61	4	*-1.0*

z-scores outside |z| >2 are shown in **bold,** see Section 5 *italics indicate for information only*

Table 2 (continued): Results and z-Scores, Gluten in 27222A

laboratory number	analyte											
	Ingenasa Ingezim Gluten Quick (30.GL2.K2) assigned value: 30.4 mg/kg			Neogen Veratox for Gliadin R5 (8510) assigned value: *20.7* mg/kg			R-Biopharm Ridascreen Gliadin (R7001) assigned value: 31.9 mg/kg			Romer Labs AgraQuant ELISA Gluten G12 (COKAL0200) assigned value: *21.9* mg/kg		
	result	LoQ	z-score	result	LoQ	z-score	result	LoQ	z-score	result	LoQ	z-score
076												
077	not detected			not detected			21.5	5	-1.3	not detected		
078	42.70	6.00	1.6									
079							24	20	-1.0			
080							23.98	5	-1.0			
081							53.1	5	**2.7**			
082							40.98		1.1			
083				16.00	5.00	*-0.9*						
084							42.3	<5	1.3			
085												
086							28.1	1	-0.5			
087							36	5	0.5			
088							32	5,0	0.0			
089	not detected			not detected			not detected			not detected		
090												

z-scores outside |z| >2 are shown in **bold,** see Section 5 *italics indicate for information only*

Table 2 (continued): Results and z-Scores, Gluten in 27222A

laboratory number	analyte											
	Ingenasa Ingezim Gluten Quick (30.GL2.K2) assigned value: 30.4 mg/kg			Neogen Veratox for Gliadin R5 (8510) assigned value: *20.7* mg/kg			R-Biopharm Ridascreen Gliadin (R7001) assigned value: 31.9 mg/kg			Romer Labs AgraQuant ELISA Gluten G12 (COKAL0200) assigned value: *21.9* mg/kg		
	result	LoQ	z-score	result	LoQ	z-score	result	LoQ	z-score	result	LoQ	z-score
091	30.2	5	0.0									
092							28.58	5	-0.4			
093	not detected			not detected			30.68		-0.2	not detected		
094												
095	not detected			not detected			not detected			not detected		
096												
097							37.40	5.40	0.7			
098												
099							31.86	5	0.0			
100												
101							29.3	5	-0.3			
102				12.05	40	*-1.7*						
103	not detected			not detected			37.4	5	0.7	not detected		
104				20.70	2.5	*0.0*	17.87	5	-1.8			
105							32.8	6.6	0.1			

z-scores outside |z| >2 are shown in **bold,** see Section 5 *italics indicate for information only*

Table 2 (continued): Results and z-Scores, Gluten in 27222A

laboratory number	analyte											
	Ingenasa Ingezim Gluten Quick (30.GL2.K2) assigned value: 30.4 mg/kg			Neogen Veratox for Gliadin R5 (8510) assigned value: *20.7* mg/kg			R-Biopharm Ridascreen Gliadin (R7001) assigned value: 31.9 mg/kg			Romer Labs AgraQuant ELISA Gluten G12 (COKAL0200) assigned value: *21.9* mg/kg		
	result	LoQ	z-score	result	LoQ	z-score	result	LoQ	z-score	result	LoQ	z-score
106							29.20	5	-0.3			
107												
108							22.3	5	-1.2			
109							25.85	5	-0.8			
110							34.2	5	0.3			
111												
112												
113							40		1.0			
114	29.08	3	-0.2									
115	not detected			not detected			35	10	0.4	not detected		
116	30.6	4.0	0.0									
117							27.5	5.0	-0.5			
118							44.4	5	1.6			
119							8.064	3	**-3.0**			
120							35.2	5	0.4			

z-scores outside |z| >2 are shown in **bold,** see Section 5 *italics indicate for information only*

Table 2 (continued): Results and z-Scores, Gluten in 27222A

laboratory number	analyte											
	Ingenasa Ingezim Gluten Quick (30.GL2.K2) assigned value: 30.4 mg/kg			Neogen Veratox for Gliadin R5 (8510) assigned value: *20.7* mg/kg			R-Biopharm Ridascreen Gliadin (R7001) assigned value: 31.9 mg/kg			Romer Labs AgraQuant ELISA Gluten G12 (COKAL0200) assigned value: *21.9* mg/kg		
	result	LoQ	z-score	result	LoQ	z-score	result	LoQ	z-score	result	LoQ	z-score
121							33	<5	0.1			
122							27	5.0	-0.6			
123							38.8	5.0	0.9			
124							26	5	-0.7			
125										30.7	4	*1.6*
126							33.58	5	0.2			
127							34.9		0.4			
128							33.6	5	0.2			
129	not detected			not detected			40	5	1.0	not detected		
130							27.3	5	-0.6			

z-scores outside |z| >2 are shown in **bold,** see Section 5 *italics indicate for information only*

Table 3: Other Gluten Results Reported in 27222A

laboratory number	ELISA Kit	result mg/kg	LoQ mg/kg
007	Ingenasa Ingezim Gluten (30.GLU.K2)	32	5
019	R-Biopharm Ridascreen Fast Gliadin (R7002)	24	4
029	R-Biopharm Ridascreen Fast Gliadin (R7002)	24.9	16.4
045	Romer Labs AgraQuant ELISA Gluten (COKAL0248)	56	4
090	Bio-Check (UK) Gluten-Check R5 (R6098/R6099)	33	2.5
091	R-Biopharm Ridascreen Gliadin Competitive (R7021)	32.2	10
095	R-Biopharm Ridascreen Fast Gliadin (R7002)	25.8	
100	Ingenasa Ingezim Gluten (30.GLU.K2)	30	3
110	R-Biopharm Ridascreen Gliadin Competitive (R7021)	38.5	10
112	ELISA Systems Gliadin (ESGLISS-48)	16.3	2

Table 4: Other Gluten Results Reported in 27222B

laboratory number	ELISA Kit	result mg/kg	LoQ mg/kg
019	R-Biopharm Ridascreen Fast Gliadin (R7002)	10	4
041	R-Biopharm Ridascreen Gliadin (R7001)	10.5	5
074	Romer Labs AgraQuant ELISA Gluten G12 (COKAL0200)	6.84	4.00
099	R-Biopharm Ridascreen Gliadin (R7001)	1.21	5
102	Neogen Veratox for Gliadin R5 (8510)	0.63	40
106	R-Biopharm Ridascreen Gliadin (R7001)	1.4	5
125	Romer Labs AgraQuant ELISA Gluten G12 (COKAL0200)	9.1	4

Table 5: Participants' Comments

laboratory number	comments
007	QI-MA-0202
008	not detected
013	Result < 5 mg/kg (nq)
022	NOT DETECTED Se llevo a cabo la determinaciÃ³n de gluten en el Material T27222B y su concentraciÃ³n estÃ¡ por debajo de nuestro limite de cuantificaciÃ³n. ConcentraciÃ³n gluten <5 mg/Kg.
029	Not detected <16.4mg/kg
030	A - 107 B - 26
033	Kit Used: RIDAÃ?Â?Ã?Â® QUICK Gliadin kit, Art. NÃ?Â?Ã?Â°: R 7003
035	< 5,0 mg/Kg gluten
041	T27222A - Cake Mix - result recorded was <5 mg/kg
047	RIDA QUICK Gliadin Art N R7003 QUALITATIVE results
057	T27222B - Cake Mix : Not Detected Limit of quantification :5mg/kg
072	R-Biopharm R7003 Kit
076	Tests rÃ©alisÃ©s avec le kit Romerlabs AgraStrip Gluten G12 (COKAL0200AS)
080	The limit of quantification is 5 mg/kg. The result in sample B was <5 mg/kg. Therefore the result is reported as nq
081	<5 mg/kg (LOQ 5mg/kg)
084	The results were below the limit of quantification
085	we use r-biopharma RIDA Quick Gliadin- R7003
088	Result obtained for test material T27222B less than limit of quantification (<5,0 mg gluten/Kg)
089	Gluten by: R-Biopharm Ridaquick Gliadin (R7003) Gluten detected (nq) in cake Mix material T27222A (Means > 20 mg/kg) and Gluten Not Detected (nd) in cake Mix material T27222B (means content < 20 mg/kg)
090	Below LLOQ (0.7mg/kg)
091	NOT DETECTED
092	T27222A= 28.58 +/- 14.34 mg/kg (incertezza estesa con fattore di copertura 2 e livello di fiducia del 95%) T27222B= inferiore al limite di rilevabilitÃ?Â (< 3 mg/kg)
095	T27222B - Cake Mix Gluten: <10 mg/kg
096	RIDAÃ?Â?Ã?Â?Ã?Â?Ã?Â® QUICK Gliadin kit, Ã?Â?Ã?Â¢Ã?Â?Ã?Â?Ã?Â?Ã?Â?Immunochromatographic test for the detection of gliadinÃ?Â?Ã?Â¢Ã?Â?Ã?Â?Ã?Â?Ã?Â□, Art. NÃ?Â?Ã?Â?Ã?Â?Ã?Â°: R 7003, R-Biopharm AG, Darmstadt, Germany Both samples are done by qualitative meth
098	Used SureFood Allergen ID PCR kit
106	T27222B - Cake Mix value < 5 ppm

Table 5 (Continued): Participants' Comments

laboratory number	comments
107	R-BIOPHARM RIDA QUICK Gliadin (R7004)
120	LOQ = 5 mg/kg
126	Result for T27222B is below Limit of quantification.
128	Extraction using Cocktail solution (R7006)
129	The T27222B test has been carried out but the result is less than the limit of detection, so for us it is absent.

comments are as submitted by participants but some may have been edited to maintain participant anonymity but have not been edited to remove non-standard characters

Table 6: Assigned Values and Standard Deviations for Proficiency

analyte	data points, *n*	assigned value, x_a (mg/kg)	uncertainty, *u*	standard deviation for proficiency, σ_p	
Ingenasa Ingezim Gluten Quick (30.GL2.K2)	4	30.4	0.6	ffp	7.60
Neogen Veratox for Gliadin R5 (8510)	7	*20.7*	*2.3*	ffp	*5.18*
R-Biopharm Ridascreen Gliadin (R7001)	90	31.9	0.7	ffp	7.97
Romer Labs AgraQuant ELISA Gluten G12 (COKAL0200)	6	*21.9*	*3.7*	ffp	*5.46*

ffp = fitness-for-purpose criteria
italics indicate for information only

Table 7: Number and Percentage of z-Scores where |z| ≤2

analyte	number of scores where |z| ≤2	total number of scores	% |z|≤2
Ingenasa Ingezim Gluten Quick (30.GL2.K2)	4	4	100
Neogen Veratox for Gliadin R5 (8510)	*6*	7	*86*
R-Biopharm Ridascreen Gliadin (R7001)	87	90	97
Romer Labs AgraQuant ELISA Gluten G12 (COKAL0200)	*5*	6	*83*

italics indicate for information only

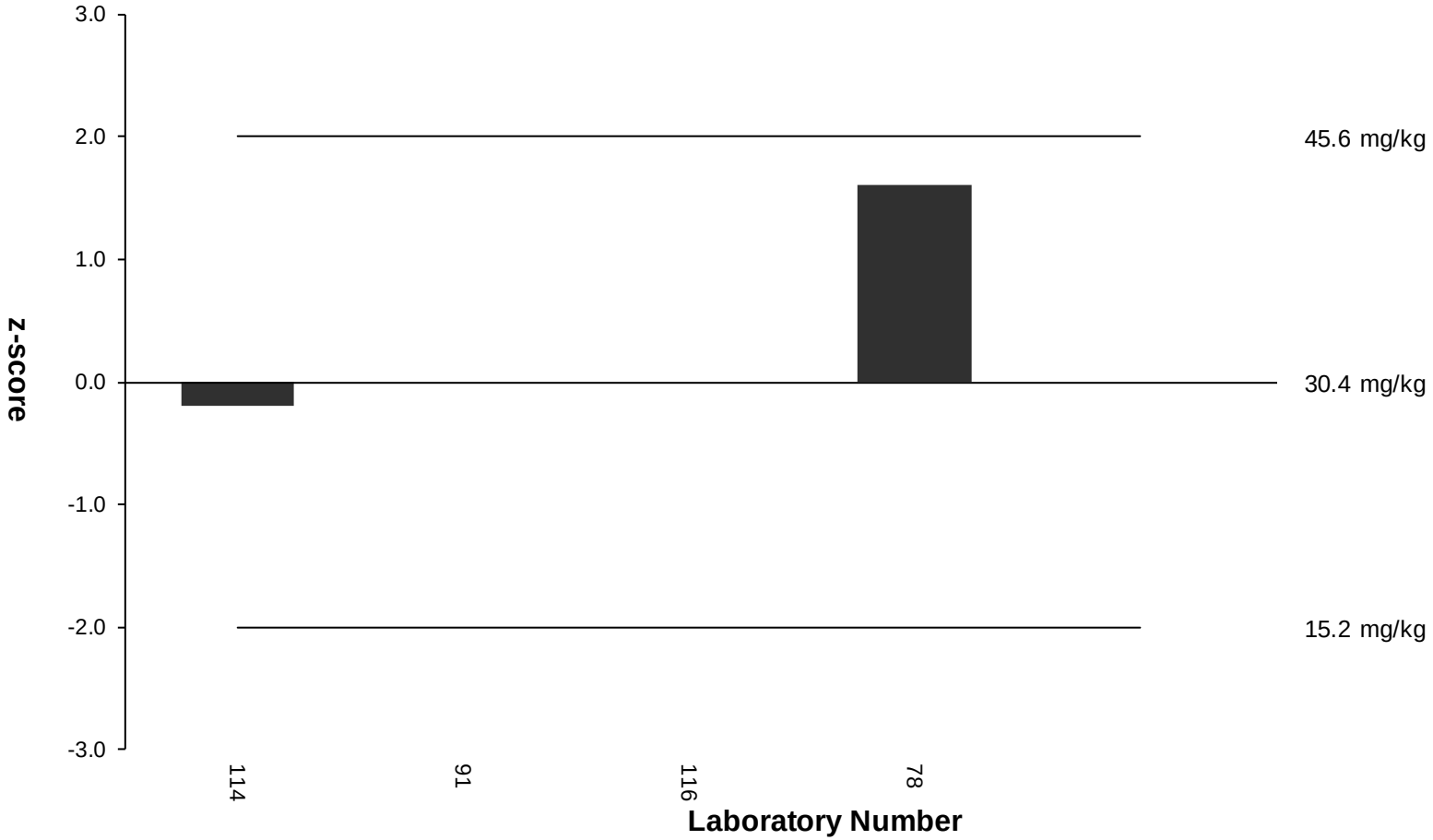

Figure 1: z-Scores for Ingenasa Ingezim Gluten Quick (30.GL2.K2)

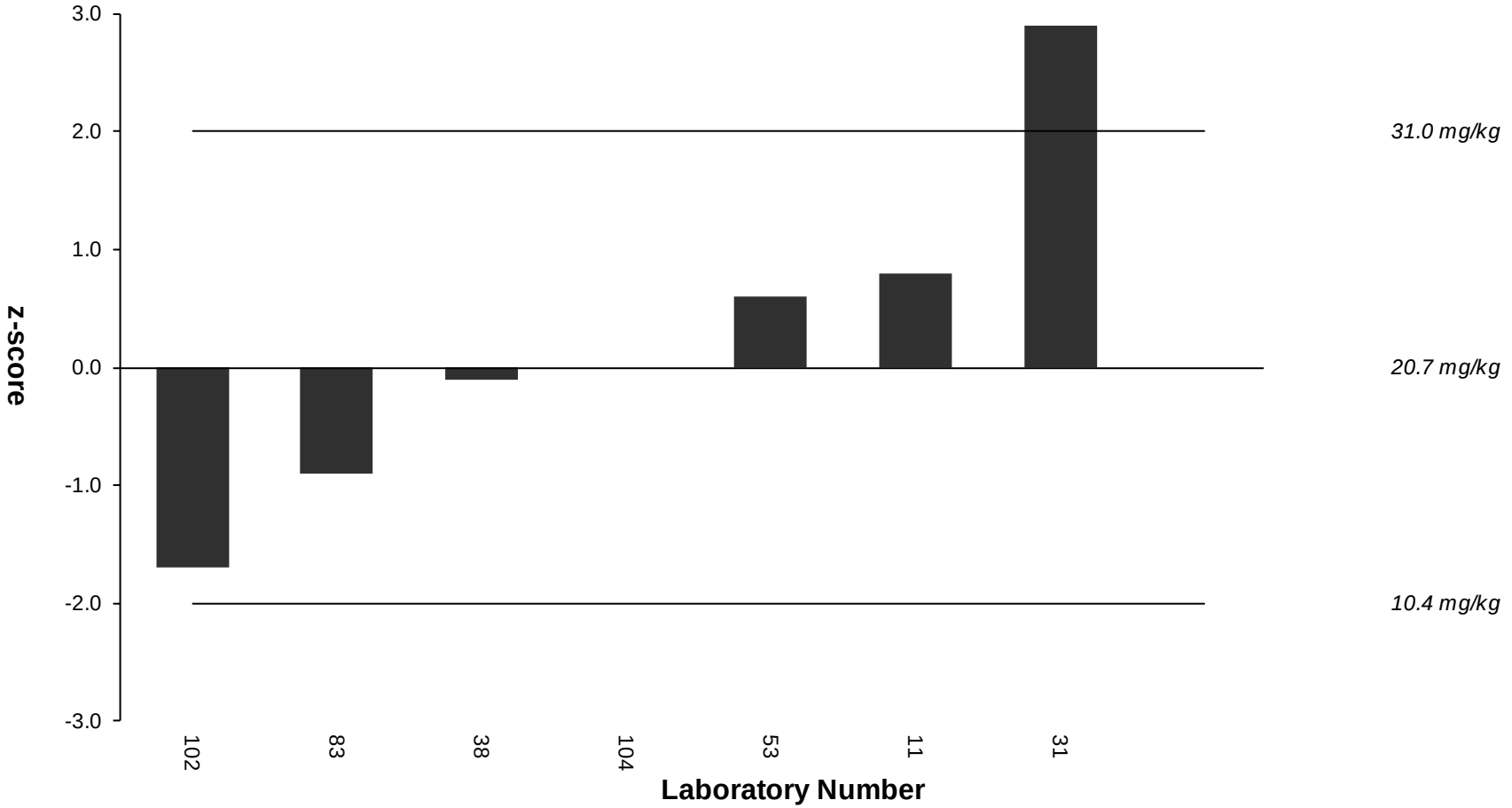

Figure 2: z-Scores for Neogen Veratox for Gliadin R5 (8510)
this histogram is given for information only

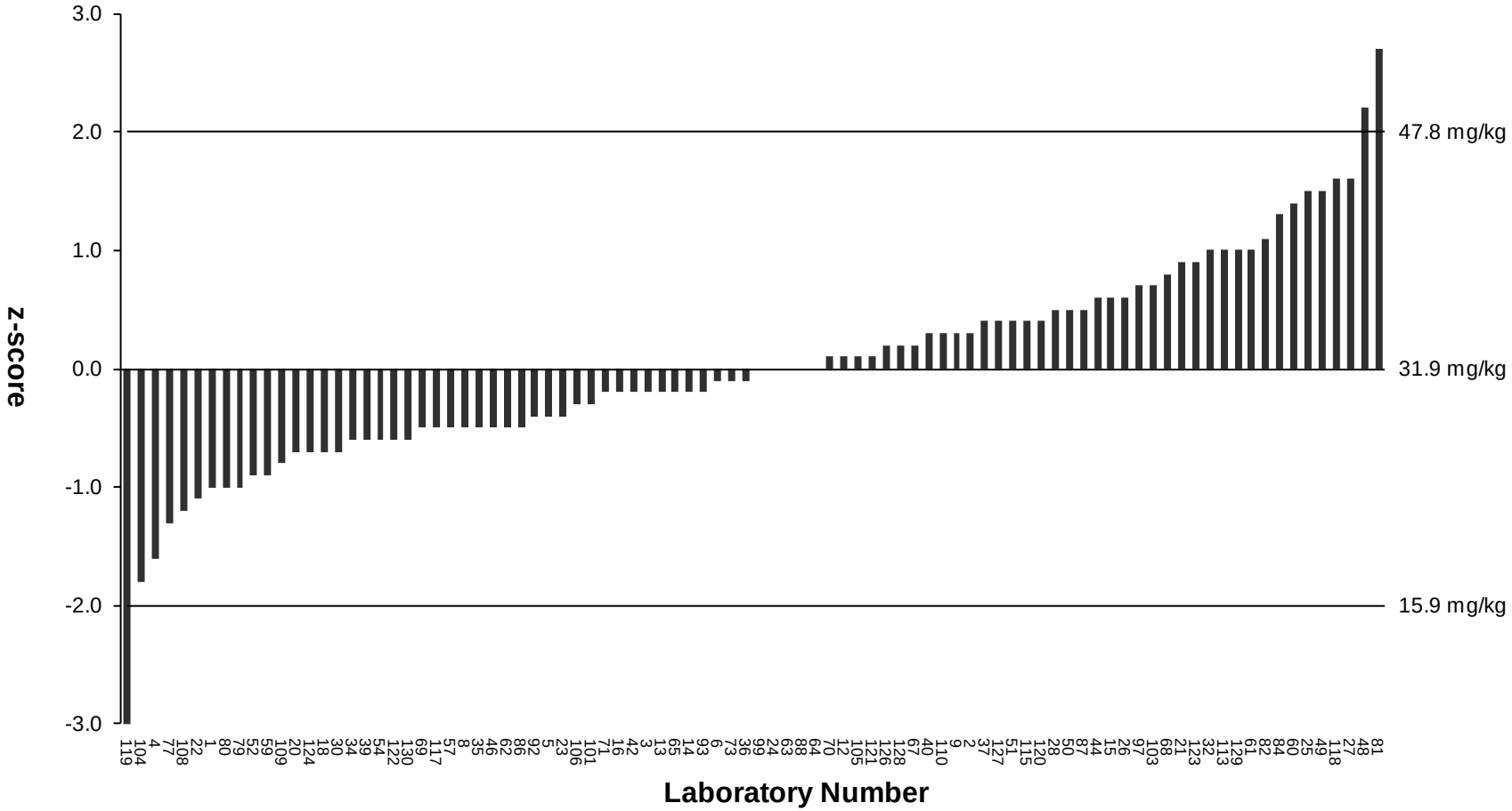

Figure 3: z-Scores for R-Biopharm Ridascreen Gliadin (R7001)

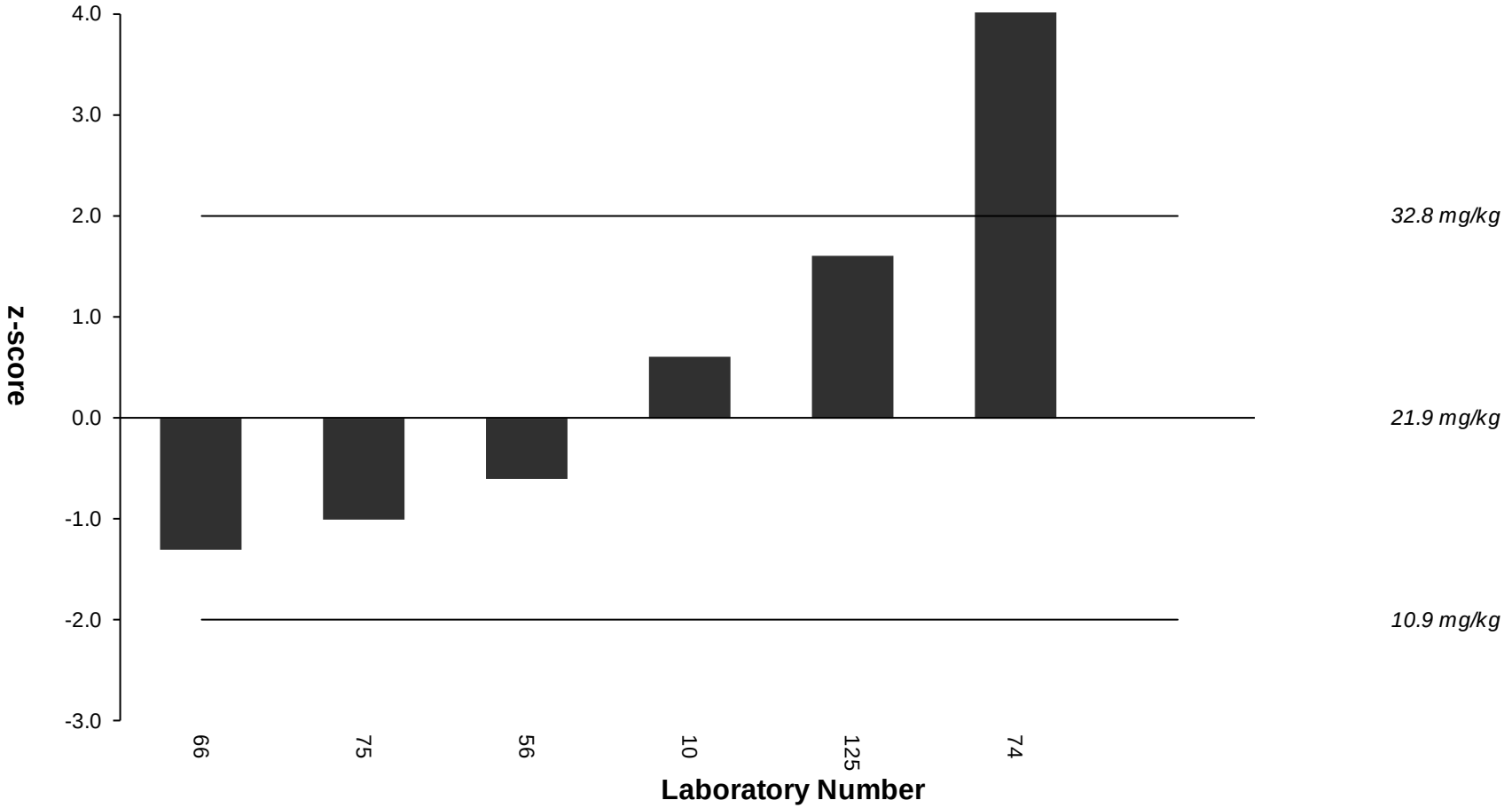

Figure 4: z-Scores for Romer Labs AgraQuant ELISA Gluten G12 (COKAL0200)
this histogram is given for information only

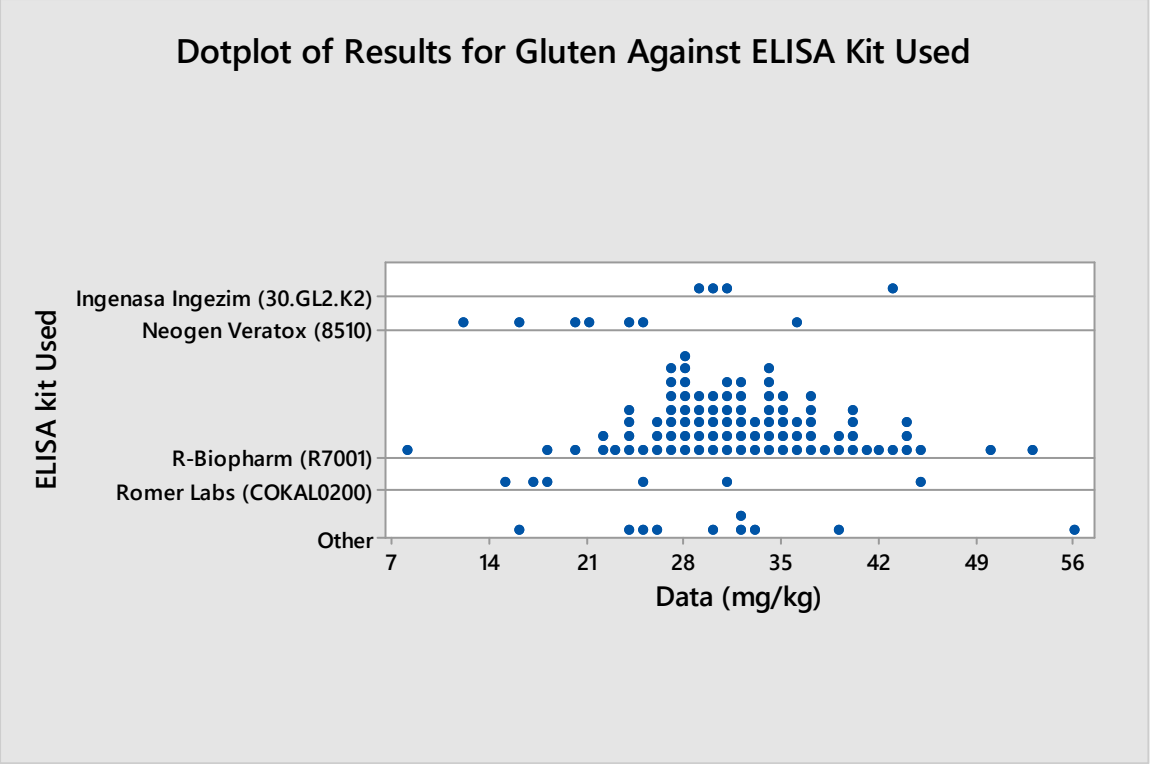

Figure 5: Dot Plot of Gluten Data in Cake Mix by Kit Type in 27222A

APPENDIX I: Analytical Methods Used by Participants

Methods are tabulated according to the information supplied by participants, but some responses may have been combined or edited for clarity.

T27222A

Gluten

Is the Method Used Accredited?	laboratory number
no	055 058 083 101
yes	014 020 026 036 038 042 046 052 061 071 110 111 113 121 122 127

ELISA Lot Number or Batch Number of Kit	laboratory number
13117	026 061
13467	020 042 110 113 122 127
14277	036 046 052
14277/13467	121
255018	038
256687	083
Lot No-E00 Rida Quick Gliadin R- Biopharm R7003	058

Assay Procedure Followed Exactly as per Kit Instructions?	laboratory number
no	042
yes	014 020 026 036 038 046 052 055 058 061 071 083 101 110 111 113 121 122 127

ELISA Sample Extraction (weight/volume, g/ml)	laboratory number
<0.5	020 036 038 046 052 058 061 071 083 110 111 113 121 122 127
≥1 - <2	042
≥5 - <10	026

ELISA Standards Used as Supplied (ready to use) or Dilutions Required?	laboratory number
as supplied	014 020 026 036 038 042 046 052 058 061 071 083 101 110 111 113 121 122 127

Standards Analysed in Duplicate?	laboratory number
no	020 026 036 038 061
yes	014 042 046 052 058 071 083 101 110 111 113 121 122 127

Negative Extraction Control Sample Run?	laboratory number
no	026 110 121 122
yes	014 020 036 038 042 046 052 058 061 071 083 101 111 113 127

Positive Quality control Sample Run?	laboratory number
no	026
yes	014 020 036 038 042 046 052 055 058 061 071 083 101 110 111 113 121 122 127

If 'yes' Was it Supplied by the Kit? If 'no' What Was Used?	laboratory number
other (please specify)	014 036 038 042 046 061 071 083 110 113 121 122 127
supplied with kit	020 052 058 101 111

ELISA Calculation of Results	laboratory number
4 parameter	042 110
cubic spline	014 020 026 036 046 052 061 071 101 113 121 127
logit / log	038 083
Detected/Not detected	058
Linear	122

Was the Proficiency Test Sample Analysed More than Once?	laboratory number
no	014 020 052 058 061
yes	026 036 038 042 046 055 071 083 101 110 111 113 121 122 127

Is your Submitted Result an Average of 2 or More Individual results?	laboratory number
no	020 038 052 055 058 071 121 122
yes	014 026 036 042 046 061 083 101 110 113 127

If yes, how Many Individual Results were Used to Obtain the Average?	laboratory number
2	014 026 042 046 061 127
3	083 101 110 113
≥5	036

Other Method (give brief outline)	laboratory number
GLUTEN TRACES BY DIPSTICK - QUALITATIVE	055

Ingenasa Ingezim Gluten Quick (30.GL2.K2)

Is the Method Used Accredited?	laboratory number
no	114
yes	078 091 116

ELISA Lot Number or Batch Number of Kit	laboratory number
251017	078 091
280318	114 116

Assay Procedure Followed Exactly as per Kit Instructions?	laboratory number
yes	078 091 114 116

ELISA Sample Extraction (weight/volume, g/ml)	laboratory number
<0.5	078 114 116
≥10	091

ELISA Standards Used as Supplied (ready to use) or Dilutions Required?	laboratory number
as supplied	078 091 114 116

Standards Analysed in Duplicate?	laboratory number
yes	078 091 114 116

Negative Extraction Control Sample Run?	laboratory number
no	078
yes	091 114 116

Positive Quality control Sample Run?	laboratory number
no	078
yes	091 114 116

If 'yes' Was it Supplied by the Kit? If 'no' What Was Used?	laboratory number
other (please specify)	091 114 116

ELISA Calculation of Results	laboratory number
Point to point	078
POLYNOMIAL	116
Polynomic	114
question 9: There were internal controls. question 10: quadratic curve	091

Was the Proficiency Test Sample Analysed More than Once?	laboratory number
yes	078 091 114 116

Is your Submitted Result an Average of 2 or More Individual results?	laboratory number
no	091
yes	078 114 116

If yes, how Many Individual Results were Used to Obtain the Average?	laboratory number
2	078 114 116

Other Method (give brief outline)	laboratory number
NO	116

Neogen Veratox for Gliadin R5 (8510)

Is the Method Used Accredited?	laboratory number
no	083 104
yes	031 038 053 102

ELISA Lot Number or Batch Number of Kit	laboratory number
255018	038 102
255425	031
256687	083
258035	104
Test kit lot no.256687	053

Assay Procedure Followed Exactly as per Kit Instructions?	laboratory number
yes	031 038 053 083 102 104

ELISA Sample Extraction (weight/volume, g/ml)	laboratory number
<0.5	031 038 053 083 102
≥2 - <5	104

ELISA Standards Used as Supplied (ready to use) or Dilutions Required?	laboratory number
as supplied	031 038 053 083 102 104

Standards Analysed in Duplicate?	laboratory number
no	031 038 053 102
yes	083 104

Negative Extraction Control Sample Run?	laboratory number
no	031 102
yes	038 053 104

Positive Quality control Sample Run?	laboratory number
no	102
yes	031 038 053 083 104

If 'yes' Was it Supplied by the Kit? If 'no' What Was Used?	laboratory number
other (please specify)	031 038 083
supplied with kit	053 102 104

ELISA Calculation of Results	laboratory number
cubic spline	104
logit / log	031 038 053 083 102

Was the Proficiency Test Sample Analysed More than Once?	laboratory number
yes	031 038 053 083 102 104

Is your Submitted Result an Average of 2 or More Individual results?	laboratory number
no	038
yes	031 053 083 102 104

If yes, how Many Individual Results were Used to Obtain the Average?	laboratory number
2	031 102
3	083
4	053 104

R-Biopharm Ridascreen Gliadin (R7001)

Is the Method Used Accredited?	laboratory number
no	003 004 013 059 064 079 080 081 086 093 097 101 104 106 109 120 126 129 130
yes	001 002 006 008 012 014 015 016 020 021 022 023 024 026 028 030 032 035 036 037 039 042 044 046 050 051 052 057 061 062 063 065 068 070 071 082 084 087 088 092 099 103 108 110 113 115 118 121 122 123 124 127 128

ELISA Lot Number or Batch Number of Kit	laboratory number
LOT13467	032
13117	026 084 106 128 130
13467	001 006 020 022 037 039 042 044 050 051 059 063 082 086 087 103 109 110 113 115 118 122 124 127 129
13496	104
14277	003 008 013 023 030 035 036 046 052 064 068 070 079 080 088 097 099 120
14277/13467	121
Lot # 13467	108
LOT 13467	004
Lot 13467 exp 06.2019	093
Lot 13467, Exp 2019-06	021
LOT 14277	002
Lot Number:14277	057
R 7001	065

Assay Procedure Followed Exactly as per Kit Instructions?	laboratory number
no	042
yes	001 002 003 004 006 008 012 013 014 015 016 020 021 022 023 026 028 030 032 035 036 037 039 044 046 050 051 052 057 059 061 062 063 064 065 068 070 071 079 080 082 084 086 087 088 092 093 097 099 101 103 104 106 108 109 110 113 115 118 120 121 122 123 124 126 127 128 129 130

ELISA Sample Extraction (weight/volume, g/ml)	laboratory number
<0.5	001 002 003 006 008 013 015 020 021 022 023 030 032 035 036 039 044 046 051 052 057 059 061 063 064 065 068 070 071 080 082 086 087 088 092 093 097 099 103 106 108 109 110 113 115 118 120 121 122 127 128 129 130
≥0.5 - <1	124 126
≥1 - <2	028 037 042 123
≥2 - <5	004 104
≥5 - <10	026
≥10	084

ELISA Standards Used as Supplied (ready to use) or Dilutions Required?	laboratory number
as supplied	001 002 003 004 006 008 012 013 014 015 016 020 021 023 026 028 030 032 035 036 037 039 042 044 046 051 052 057 059 061 062 063 064 065 068 070 071 079 080 082 084 086 087 088 092 097 099 101 103 104 106 108 109 110 113 115 118 120 121 122 123 124 126 127 128 129 130
diluted	022 093

Standards Analysed in Duplicate?	laboratory number
no	004 008 020 026 030 036 044 057 059 061 086
yes	001 002 003 006 012 013 014 015 016 021 022 023 028 032 035 037 039 042 046 050 051 052 062 063 064 065 068 070 071 079 080 082 084 087 088 092 093 097 099 101 103 104 106 108 109 110 113 115 118 120 121 122 123 124 126 127 128 129 130

Negative Extraction Control Sample Run?	laboratory number
no	001 008 013 023 026 030 064 082 084 087 097 110 120 121 122 123 124 128
yes	002 003 006 012 014 015 016 020 021 022 028 032 035 036 037 039 042 044 046 050 051 052 057 059 061 062 063 065 068 070 071 079 080 086 088 092 093 099 101 103 104 106 108 109 113 115 118 126 127 129 130

Positive Quality control Sample Run?	laboratory number
no	001 004 026 030 044 084 092 129
yes	002 003 006 008 012 013 014 015 016 020 021 022 023 028 032 035 036 037 039 042 046 050 051 052 057 059 061 062 063 064 065 068 070 071 079 080 082 086 087 088 093 097 099 101 103 104 106 108 109 110 113 115 118 120 121 122 123 124 126 127 128 130

If 'yes' Was it Supplied by the Kit? If 'no' What Was Used?	laboratory number
other (please specify)	002 003 006 008 012 013 014 015 016 022 023 032 035 036 037 039 042 046 051 059 061 062 063 064 065 070 071 079 082 086 088 092 097 103 106 109 110 113 120 121 122 124 127 128 130
supplied with kit	020 021 028 052 057 068 080 087 093 099 101 104 108 115 118 123 126

ELISA Calculation of Results	laboratory number
4 parameter	042 059 092 093 109 110
cubic spline	001 003 006 013 014 015 016 020 022 023 026 035 036 037 039 044 046 052 057 061 062 063 065 068 070 071 079 080 082 086 087 088 101 104 108 113 115 118 120 121 123 124 126 127 128 129 130
logit / log	021
Point to point	028 051 099 103
by dedicated software	084
linear	122
log - log, linear regression	097
Measure the absorbance at 450 nm using the Stat Fax 4700 Microstrip Reader	008
Measure the absorbance at 450 nm using the Stat Fax 4700 Microstrip Reader	030
polynomial, 3rd order	032
STANDARD CURVE	002
Three samples of positive QC with known concentrations.	064

Was the Proficiency Test Sample Analysed More than Once?	laboratory number
no	001 004 006 008 012 020 022 023 030 035 052 065 079 103 109 115 123 126
yes	002 003 013 014 015 016 021 026 028 032 037 039 042 044 046 050 051 057 059 061 062 063 064 068 070 071 080 082 084 086 087 088 092 093 097 099 101 104 108 110 113 118 120 121 122 124 127 128 129 130

Is your Submitted Result an Average of 2 or More Individual results?	laboratory number
no	001 002 008 012 015 016 020 022 023 030 035 037 039 051 052 062 064 071 088 121 122 123 124
yes	003 004 006 013 014 021 026 028 032 036 042 044 046 050 057 059 061 063 065 068 070 079 080 082 084 086 087 092 093 097 099 101 103 104 108 109 110 113 115 118 120 126 127 128 129 130

If yes, how Many Individual Results were Used to Obtain the Average?	laboratory number
2	004 006 013 014 032 042 044 046 059 061 065 079 082 084 092 099 108 109 115 120 126 127 129 130
3	003 068 080 087 101 110 113 118
4	021 057 063 103 104 128
≥5	026 036 070 086 093 097

Other Method (give brief outline)	laboratory number
NA	068
no	021

Romer Labs AgraQuant ELISA Gluten G12 (COKAL0200)

Is the Method Used Accredited?	laboratory number
no	075
yes	010 056 074

ELISA Lot Number or Batch Number of Kit	laboratory number
GU 1028-1709, GU1029-1712	074
GU1031-1802	010
GU1031-1802	075

Assay Procedure Followed Exactly as per Kit Instructions?	laboratory number
yes	010 056 074 075

ELISA Sample Extraction (weight/volume, g/ml)	laboratory number
<0.5	010 056 074 075

ELISA Standards Used as Supplied (ready to use) or Dilutions Required?	laboratory number
as supplied	010 056 074 075

Standards Analysed in Duplicate?	laboratory number
yes	010 056 074 075

Negative Extraction Control Sample Run?	laboratory number
no	075
yes	010 056 074

Positive Quality control Sample Run?	laboratory number
no	010
yes	056 074 075

If 'yes' Was it Supplied by the Kit? If 'no' What Was Used?	laboratory number
other (please specify)	056 074 075

ELISA Calculation of Results	laboratory number
4 parameter	056 074
Point to point	010 075

Was the Proficiency Test Sample Analysed More than Once?	laboratory number
no	075
yes	010 056 074

Is your Submitted Result an Average of 2 or More Individual results?	laboratory number
no	075
yes	010 056 074

If yes, how Many Individual Results were Used to Obtain the Average?	laboratory number
2	056
4	010
≥5	074

T27222B

Gluten

Is the Method Used Accredited?	laboratory number
no	055 058 101
yes	014 020 026 036 038 042 046 052 083 110 111 113 127

ELISA Lot Number or Batch Number of Kit	laboratory number
13117	026
13467	020 042 110 113 127
14277	036 046 052
255018	038
256687	083
Lot No-E00 Rida Quick Gliadin R- Biopharm R7003	058

Assay Procedure Followed Exactly as per Kit Instructions?	laboratory number
no	042
yes	014 020 026 036 038 046 052 058 083 101 110 111 113 127

ELISA Sample Extraction (weight/volume, g/ml)	laboratory number
<0.5	020 036 038 046 052 058 083 110 111 113 127
≥1 - <2	042
≥5 - <10	026

ELISA Standards Used as Supplied (ready to use) or Dilutions Required?	laboratory number
as supplied	014 020 026 036 038 042 046 052 058 083 101 110 111 113 127

Standards Analysed in Duplicate?	laboratory number
no	020 026 036 038
yes	014 042 046 052 058 083 097 101 110 111 113 127

Negative Extraction Control Sample Run?	laboratory number
no	026 097 110
yes	014 020 036 038 042 046 052 058 083 101 111 113 127

Positive Quality control Sample Run?	laboratory number
no	026
yes	014 020 036 038 042 046 052 055 058 083 097 101 110 111 113 127

If 'yes' Was it Supplied by the Kit? If 'no' What Was Used?	laboratory number
other (please specify)	036 038 042 046 083 110 113 127
supplied with kit	014 020 052 058 101 111

ELISA Calculation of Results	laboratory number
4 parameter	042 110
cubic spline	014 020 026 036 046 052 101 113 127
logit / log	038 083
Detected/Not detected	058

Was the Proficiency Test Sample Analysed More than Once?	laboratory number
no	020 052 058
yes	014 026 036 038 042 046 055 083 101 110 113 127

Is your Submitted Result an Average of 2 or More Individual results?	laboratory number
no	020 038 052 055 058
yes	014 026 036 042 046 083 101 110 113 127

If yes, how Many Individual Results were Used to Obtain the Average?	laboratory number
2	014 026 042 046 110 127
3	083 101 113
≥5	036

Other Method (give brief outline)	laboratory number
GLUTEN TRACES BY DIPSTICK - QUALITATIVE	055

APPENDIX II: Fapas® SecureWeb, Protocol and Contact Details

1. Fapas® SECUREWEB

Access to the secure area of our website is only available to participants in our proficiency tests. Please contact us if you require a UserID and Password. Fapas® SecureWeb allows participants to:

- Obtain their laboratory numbers for the proficiency tests in which they have participated.
- View the results they submitted in past and current proficiency tests.
- Submit their results and methods for current tests.
- Review future tests they have ordered.
- Order proficiency tests, reference materials and quality control materials.
- Freely download copies of reports (PDF file), of proficiency tests in which they have participated.
- View charts of their z-scores obtained in previous Fapas® – Food Chemistry proficiency tests.

2. PROTOCOL

The Protocols [4, 5] set out how Fapas® – Food Chemistry is organised. Copies can be downloaded from our website.

3. CONTACT DETAILS

This report was prepared and authorised on behalf of Fapas® by Dominic Anderson (Round Coordinator). Participants with any comments or concerns about this proficiency test should contact:

Fapas®

Fera Science Ltd (Fera)
National Agri-Food Innovation Campus
Sand Hutton
York
YO41 1LZ
UK

Tel: +44 (0)1904 462100
Fax: +44 (0)1904 500440

info@fapas.com

www.fapas.com