

S4 Table. Characterization of monoclonal antibodies E2/G2 and immunoaffinity gel by 2,4-D structural analogues. Percentage of cross reactivity (CR) was calculated using the equation: $CR(\%) = IC_{50}(2,4-D)/IC_{50}(\text{cross reactant}) \times 100$, where IC_{50} is the concentration of a competitor (cross reactant) resulting in 50% reduction of conjugate binding in direct ELISA system. For characterization of an immunoaffinity gel (IAG) with immobilised E2/G2 antibodies, mixtures of selected 2,4-D structural analogues with concentrations ranging from 1 to 300 pmol were applied onto 0.5 ml of IAG. Each spiking level was then determined by UHPLC-ESI(-)-MS/MS, compared with the concentration of appropriate standard solution and the recoveries were calculated. Values are means \pm SD (n = 3); n.d. = not detected.

Compound	CR (%)	Recovery (%)					
		1 pmol	5 pmol	10 pmol	50 pmol	100 pmol	300 pmol
2,4-D	100.0	91.5 \pm 7.9	75.3 \pm 4.3	69.4 \pm 4.9	59.2 \pm 2.3	47.6 \pm 7.9	32.6 \pm 5.8
4-(2,4-dichlorophenoxy) butyric acid (2,4-DB)	0.2	n.d.	10.5 \pm 3.2	14.7 \pm 1.9	8.7 \pm 0.7	2.5 \pm 0.4	1.0 \pm 0.3
2-methyl-4-chlorophenoxy acetic acid (MCPA)	8.04	32.4 \pm 3.5	23.6 \pm 1.0	15.3 \pm 1.6	13.8 \pm 1.5	4.0 \pm 0.4	1.9 \pm 0.3
4-(2-methyl-4-chlorophenoxy) butyric acid (MCPB)	0.9	n.d.	n.d.	n.d.	n.d.	n.d.	0.6 \pm 0.1
2-(2-methyl-4-chlorophenoxy)propionic acid (MCPB)	<0.2	n.d.	n.d.	n.d.	n.d.	0.3 \pm 0.1	0.2 \pm 0.0
2,4,5-trichlorphenoxyacetic acid (2,4,5-T)	3.8	n.d.	n.d.	11.9 \pm 2.8	9.0 \pm 0.4	2.3 \pm 0.5	1.1 \pm 0.3
2,4-D-methylester (2,4-D-Me)	87.73						
2-chlorphenoxyacetic acid	0.9						
2-methyl-4-chlorphenoxyacetic acid	<0.2						
2-methyl-4,6-dichlorphenoxyacetic acid	<0.2						
2-methyl-6-chlorphenoxyacetic acid	<0.2						
4-chlorphenoxyacetic acid	0.9						
2,3-dichlorphenoxyacetic acid	1.6						
3,4-dichlorphenoxyacetic acid	2.7						
2-(2,4-dichlorphenoxy) propionic acid	0.4						
2,4-dichlorphenol	1.72						
2-methyl-4-chlorphenol	0.5						
2,4-dichloranisole	1.5						
3,4-dimethylphenol	<0.2						
pentachlorphenol	0.5						