Case 1b

Ambiguous bacterial mutagenicity result

Shared with an IWGT workgroup

Recommended Criteria for the Evaluation of Bacterial Mutagenicity Data (Ames Test). Mutation Research - Genetic Toxicology and Environmental Mutagenesis 848: 403075 (2019)

Equivocal Ames result for a toxic compound

Dose (μg/plate)	− S9 Mix Revertants per plate (mean number of Revertants per dose)									
	Base-pair substitution type						Frameshift mutation type			
	TA100		TA1535		WP2 uvrA		TA98		TA1537	
Negative Control	128 148 133	(136)	17 13 14	(15)	22 25 34	(27)	33 21 25	(26)	8 10 9	(9)
6.86	142 133 125	(133)	6 10 10	(9)	27 22 25	(25)	26 23 29	(26)	14 9 8	(10)
20.6	147 115 133	(132)	15 8 16	(13)	19 26 18	(21)	19 23 45	(29)	14 8 7	10
61.7	129 136 142	(136)	10 20 30	(20)	27 27 24	(26)	27 29 29	(28)	7 9 9	(8)
185	52 51 79	* (61) * *	7 0 5	* (4) * *	25 10 16	* (17) * *	10 10 10	* (10) * *	2 4 3	* (3) * *
556	0 0 0	* (0) * *	0 0 0	* (0) * *	0 0 0	* (0) * *	0 0 0	* (0) * *	0 0 0	* (0) * *
1667	0 0 0	* (0) * *	0 0 0	* (0) * *	0 0 0	* (0) * *	0 0 0	* (0) * *	0 0 0	* (0) * *
5000	0 0 0	* (0) * *	0 0 0	* (0) * *	0 0 0	* (0) * *	0 0 0	* (0) * *	0 0 0	* (0) * *

Dose (μg/plate)	+S9 Mix Revertants per plate (mean number of Revertants per dose)									
	Base-pair substitution type						Frameshift mutation type			
	TA100		TA1535		WP2 uvrA		TA98		TA1537	
Negative Control	141 131 148	(140)	10 9 13	(11)	29 21 25	(25	33 51 31	(38)	16 11 9	(12)
6.86	146 131 140	(139)	14 19 12	(15)	18 30 36	(28)	34 39 45	(39)	8 12 15	(12)
20.6	162 169 144	(158)	23 18 22	(21)	26 26 20	(24)	35 46 34	(38)	8 12 11	(10)
61.7	190 172 152	(171)	36 24 34	(31)	25 25 29	(26)	34 32 32	(33)	15 9 8	(11)
185	110 121 93	* (108) * *	11 18 13	* (14) * *	30 37 27	* (31)	37 38 49	(41) * *	10 12 9	(10) * *
556	0 0 0	* (0) * *	0 0 0	* (0) * *	0 0 0	* (0) * *	0 0 0	* (0) * *	0 0 0	* (0) * *
1667	0 0 0	* (0) * *	0 0 0	* (0) * *	0 0 0	* (0) * *	0 0 0	* (0) * *	0 0 0	* (0) * *
5000	0 0 0	* (0) * *	0 0 0	* (0) * *	0 0 0	* (0) * *	0 0 0	* (0) * *	0 0 0	* (0) * *

* Growth inhibition

Repeat test for previous compound

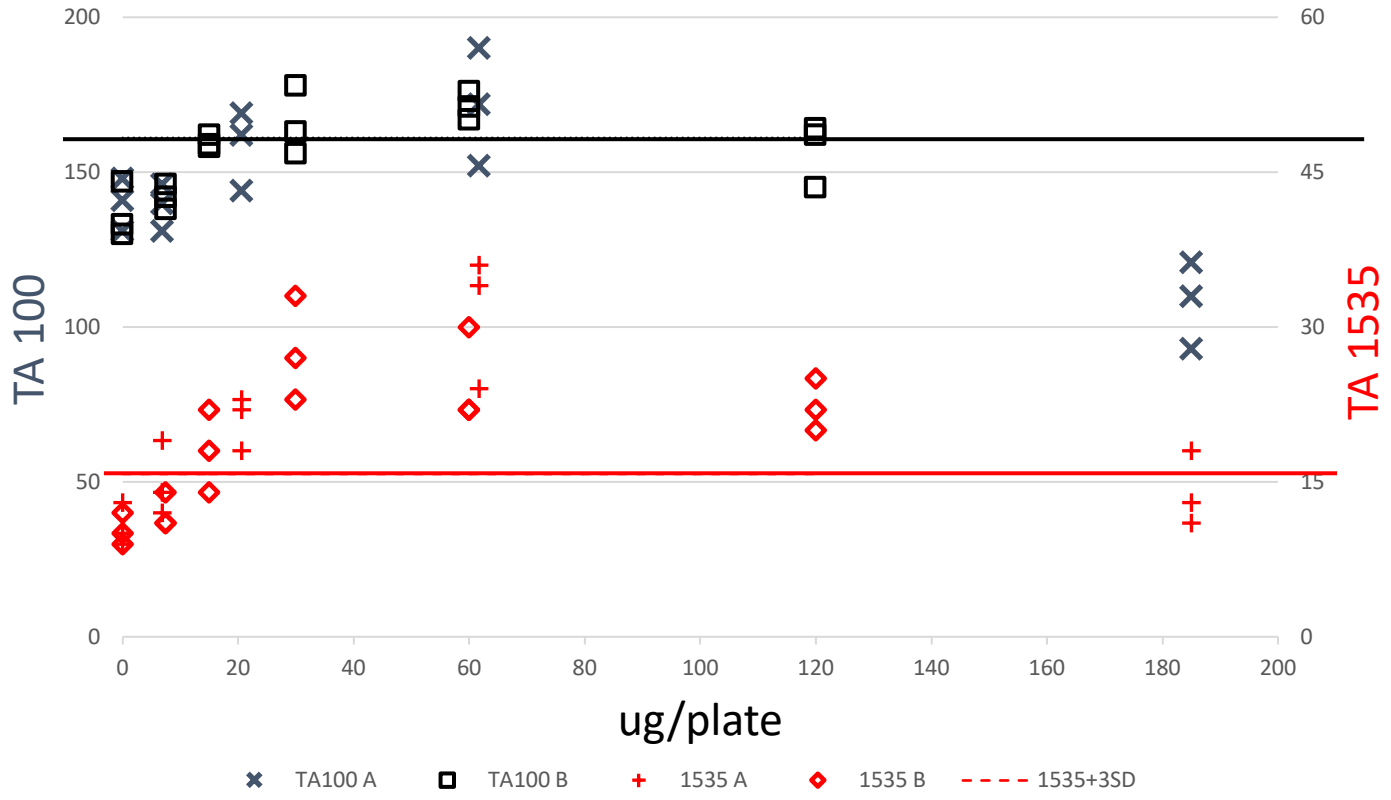
Dose (μg/plate)	+S9 Mix Revertants per plate (mean number of revertants per dose)								
	TA100		TA1535			TA100		TA1535	
Negative Control	141	(140)	10	(11)		133	(137)	9	(10)
	131		9			130		10	
	148		13			147		12	
6.86	146	(139)	14	(15)	7.5	158	(160)	14	(18)
	131		19			159		18	
	140		12			162		22	
20.6	162	(158)	23	(21)	15	142	(142)	11	(12)
	169		18			146		11	
	144		22			138		14	
61.7	190	(171)	36	(31)	30	178	(166)	23	(28)
	172		24			156		33	
	152		34			163		27	
185	110	* (108)	11	* (14)	60	167	(171)	30	(25)
	121	*	18	*		171		22	
	93	*	13	*		176		22	
556	0	* (0)	0	* (0)	120	145	(157)	25	(22)
	0	*	0	*		162		22	
	0	*	0	*		164		20	
1667	0	* (0)	0	* (0)					
5000	0	* (0)	0	* (0)					

* Growth inhibition

Repeat test for previous compound

Dose (μg/plate)	+S9 Mix Revertants per plate (mean number of revertants per dose)								
	TA100		TA1535			TA100		TA1535	
Negative Control	141	(140)	10	(11)		133	(137)	9	(10)
	131		9			130		10	
	148		13			147		12	
6.86	146	(139)	14	(15)	7.5	158	(160)	14	(18)
	131		19			159		18	
	140		12			162		22	
20.6	162	(158)	23	(21)	15	142	(142)	11	(12)
	169		18			146		11	
	144		22			138		14	
61.7	190	(171)	36	(31)	30	178	(166)	23	(28)
	172		24			156		33	
	152		34			163		27	
185	110	* (108)	11	* (14)	60	167	(171)	30	(25)
	121	*	18	*		171		22	
	93	*	13	*		176		22	
556	0	* (0)	0	* (0)	120	145	(157)	25	(22)
	0	*	0	*		162		22	
	0	*	0	*		164		20	
1667	0	* (0)	0	* (0)					
5000	0	* (0)	0	* (0)					

* Growth inhibition



Questions for panel:

Positive, negative, or equivocal?
Would you do more testing?
Is the graphical display helpful?