

**Tabel S1. Data of historical positive/negative controls**

Historical negative control values of revertant colonies						
Strain	S9 mix	N	Mean	±	S.D.	Range
						Lower      Upper
TA100	-	70	85.7	±	9.5	60      111
	+	70	95.9	±	10.3	65      126
TA1535	-	69	11.6	±	2.1	5      18
	+	69	11.0	±	1.6	6      16
WP2uvrA	-	10	29.1	±	5.1	6      53
	+	10	31.6	±	2.6	20      44
TA98	-	70	18.8	±	2.9	10      28
	+	70	30.2	±	4.9	23      37
TA1537	-	69	8.4	±	1.0	5      11
	+	69	16.1	±	2.8	9      23

  

Historical positive control values of revertant colonies							
Strain	S9 mix	Positive control	Dose (µg/plate)	N	Mean	± S.D.	Range
							Lower      Upper
TA100	-	SA	1.5	70	662.1	± 59.9	550      774
	+	2-AA	2.0	67	808.1	± 127.6	602      1,014
TA1535	-	SA	1.5	70	522.1	± 52.8	413      631
	+	2-AA	3.0	69	153.2	± 21.8	116      190
WP2uvrA	-	4-NQO	0.3	10	730.5	± 207.6	198      1,263
	+	2-AA	10.0	10	901.9	± 237.3	411      1,393
TA98	-	2-NF	5.0	70	622.9	± 92.6	506      740
	+	2-AA	1.0	67	392.0	± 52.4	280      504
TA1537	-	9-AA	80.0	70	519.1	± 92.4	372      666
	+	2-AA	3.0	66	204.1	± 31.1	131      277

Negative control: Water for injection, Dimethyl sulfoxide, Acetone, Tetrahydrofuran, etc.

SA: Sodium azide

2-AA: 2-Aminoanthracene

4-NQO: 4-Nitroquinoline N-oxide

2-NF: 2-Nitrofluorene

9-AA: 9-Aminoacridine

N: The total number of bacterial reverse mutation test

S.D.: Standard Deviation

The above historical control values were obtained from the data pooled from Sep. 29, 2016 to Nov. 14, 2019.

The above historical control values were obtained from the data pooled from Jan. 16, 2020 to Feb. 16, 2020 (WP2uvrA).

The range was calculated by the control limit of X derived from  $\bar{X} - \bar{X} - R_s$  value.