

L-Aspartic acid (L-アスパラギン酸)

Experimental Data-1

(B9701-1/2)

Chemical Name	: <u>L-Aspartic acid</u>
Synonym	: <u>Aspartic acid</u> <u>L-α-Aminosuccinic acid</u> <u>アスパラギン酸</u> <u>L-α-アミノコハク酸</u>
Molecular Weight	: 133.10
Melting Point	: 270-269°C [Merck]
Boiling Point	: -
Flashing Point	: -
Molecular Formula	: C ₄ H ₇ NO ₄
Chemical Structure	 $\text{CH}_2(\text{COOH})\text{CH}(\text{NH}_2)\text{COOH}$
CAS No.	: 56-84-8
MITI No.	: (2)-1305
ML No.	: -
Specified Chemical Substances	: -
Source of Substance	: Tokyo Kasei Kogyo Co., Ltd.
Lot No.	: GE01
Purity	: >98%
Vehicle	: DMSO

Mutagenicity in Bacterial Test ; Negative

IARC Evaluation ; not yet cited

Conc. μ g/plate	Number of Revertants/plate									
	Base-substitution						Frame-shift			
	TA100		TA1535		WP2uvrA/pKM101		TA98		TA1537	
DMSO	S9-	S9+	S9-	S9+	S9-	S9+	S9-	S9+	S9-	S9+
		(126)	(145)	(9)	(8)	(42)	(69)	(14)	(20)	(5)
1 .22	152 113 (133)	144 158 (151)	10 9 (10)	9 13 (11)	52 48 (50)	84 84 (84)	11 14 (13)	20 21 (21)	5 5 (5)	11 10 (11)
4 .88	130 156 (143)	151 156 (154)	5 11 (8)	6 7 (7)	46 45 (46)	68 81 (75)	7 11 (9)	24 21 (23)	3 3 (3)	13 5 (9)
19 .5	106 133 (120)	163 137 (150)	6 7 (7)	7 14 (11)	51 49 (50)	100 79 (90)	13 14 (14)	20 21 (21)	6 5 (6)	5 9 (7)
78 .1	170 116 (143)	119 163 (141)	7 7 (7)	10 9 (10)	57 59 (58)	64 78 (71)	18 14 (16)	17 28 (23)	3 3 (3)	10 11 (11)
313	121 135 (128)	141 159 (150)	10 7 (9)	6 9 (8)	51 55 (53)	87 60 (74)	10 15 (13)	18 29 (24)	2 5 (4)	5 5 (5)
1250	112 113 (113)	128 128 (128)	7 6 (7)	6 8 (7)	63 59 (61)	74 81 (78)	14 11 (13)	21 13 (17)	3 7 (5)	6 9 (8)
5000	122 141 (132)	124 138 (131)	7 8 (8)	13 11 (12)	52 55 (54)	81 76 (79)	11 14 (13)	30 25 (28)	3 2 (3)	9 9 (9)
Judgement	-	-	-	-	-	-	-	-	-	-
Specific Mutagenicity										
Positive Control	AF-2 (771)	2-AA (1338)	NaN ₃ (379)	2-AA (311)	AF-2 (1647)	2-AA (877)	AF-2 (368)	2-AA (452)	9-AA (712)	2-AA (204)

Experimental Data-2

(B9701-2/2)

Conc. μ g/plate	Number of Revertants/plate									
	Base-substitution						Frame-shift			
	TA100		TA1535		WP2 _{uvrA} /pKM101		TA98		TA1537	
DMSO	S9-	S9+	S9-	S9+	S9-	S9+	S9-	S9+	S9-	S9+
	(132)	(144)	(10)	(7)	(39)	(57)	(15)	(20)	(6)	(7)
313	143	145	9	10	46	54	15	17	5	8
	(148)	(144)	(9)	(12)	(42)	(55)	(15)	(18)	(4)	(8)
625	121	141	7	9	46	66	16	25	3	7
	(128)	(131)	(7)	(8)	(41)	(64)	(15)	(24)	(5)	(8)
1250	136	142	5	9	40	82	20	25	2	8
	(133)	(132)	(7)	(10)	(45)	(79)	(18)	(24)	(3)	(7)
2500	142	150	9	8	40	64	16	23	6	5
	(146)	(136)	(11)	(7)	(37)	(63)	(15)	(30)	(5)	(4)
5000	127	159	8	5	32	55	15	25	5	6
	(129)	(152)	(7)	(6)	(40)	(68)	(18)	(28)	(4)	(7)
Judgement	—	—	—	—	—	—	—	—	—	—
Specific Mutagenicity										
Positive Control	AF-2 (789)	2-AA (1349)	NaN ₃ (388)	2-AA (294)	AF-2 (1174)	2-AA (746)	AF-2 (318)	2-AA (405)	9-AA (707)	2-AA (169)