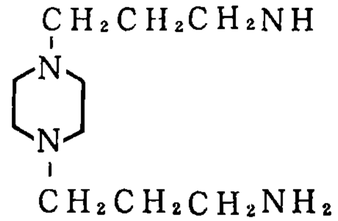
1,4-Bis(3-aminopropyl)piperazine (1,4-ビス(3-アミノプロピル)ピペラジン)

Chemical Name: 1,4-Bis(3-aminopropyl) piperazine
Synoym
Molecular weight: 200.33
Melting point: 15 ℃
Boiling point: 150~152℃ (2 mmHg)
Flashing point: 162℃(168℃ Open systen)
Chemical Structure



CAS No : 7209-38-3
MITI No : (5)-962
Source of Substance:Tokyo Kasei Kogyo Co.Ltd
Lot.No. : AP01
Purity: ≧ 98 %
Vehicle: H_2O

Mutagenicity
in Bacterial Test : Negative

IARC Overall Evaluation : not yet cited

Experimental Data

Number of Revertants/plate

Con. μg/plate	Base-substitution						Frame-shift			
	TA100		TA1535		WP2uvrA		TA98		TA1537	
	S9-	S9+	S9-	S9+	S9-	S9+	S9-	S9+	S9-	S9+
H_2O	(147)	(161)	(7)	(11)	(36)	(44)	(32)	(35)	(9)	(15)
	141	144	7	8	30	47	31	38	13	7
	139	187	9	11	37	38	44	44	10	11
9.77	(140)	(166)	(8)	(10)	(34)	(43)	(38)	(41)	(12)	(9)
	159	177	7	5	43	45	25	29	13	18
	173	181	7	8	32	51	29	31	11	20
19.5	(166)	(179)	(7)	(7)	(38)	(48)	(27)	(30)	(12)	(19)
	149	172	10	13	29	54	20	44	7	13
	148	153	5	9	25	36	30	29	14	16
39.1	(149)	(163)	(8)	(11)	(27)	(45)	(25)	(37)	(11)	(15)
	151	160	6	8	38	39	46	30	9	17
	134	171	8	9	30	38	28	37	8	14
78.1	(143)	(166)	(7)	(9)	(34)	(39)	(37)	(34)	(9)	(16)
	159	165	8	14	28	40	36	37	5	10
	150	165	8	3	34	47	30	40	13	17
156	(155)	(165)	(8)	(9)	(31)	(44)	(33)	(39)	(9)	(14)
	172	169	5	9	33	36	32	34	13	14
	144	181	13	13	43	41	26	24	10	18
313	(158)	(175)	(9)	(11)	(38)	(39)	(29)	(29)	(12)	(16)
	156	165	5	11	28	40	30	28	9	20
	158	162	9	8	44	44	32	36	14	15
625	(157)	(164)	(7)	(10)	(36)	(42)	(31)	(32)	(12)	(18)
	170	149	7*	9	46	46	39	21	17	11
	57*	145	3*	14	39	37	37	28	11	14
1250	(114*)	(147)	(5*)	(12)	(43)	(42)	(38)	(25)	(14)	(13)

continued to the next page

	Experimental Data									
Con. μg/plate	Number of Revertants/plate									
	Base-substitution						Frame-shift			
	TA100		TA1535		WP2uvrA		TA98		TA1537	
	S9-	S9+	S9-	S9+	S9-	S9+	S9-	S9+	S9-	S9+
	45*	90*	2*	7*	22*	32*	10*	10*	6	11*
	0*	77*	3*	6*	28*	43*	5*	11*	2*	11*
2500	(23*)	(84*)	(3*)	(7*)	(25*)	(38*)	(5*)	(11*)	(4*	(11*)
	54*	60*	0*	5*	0*	22*	10*	10*	6*	6*
	55*	71*	0*	5*	10*	18*	3*	15*	5*	8*
5000	(55*)	(66*)	(0*)	(5*)	(5*)	(20*)	(7*)	(13*)	(6*)	(7*)
Judgement	—	—	—	—	—	—	—	—	—	—
Specific Mutagenicity										
Positive	AF2	2AA	NaN3	2AA	AF2	2AA 20	AF2	2AA	9AA	2AA
Control	(742)	(830)	(386)	(251)	(201)	(1209)	(413)	(441)	(227)	(148)

Experimental Data

Con. μg/plate	Number of Revertants/plate									
	Base-substitution						Frame-shift			
	TA100		TA1535		WP2uvrA		TA98		TA1537	
	S9-	S9+	S9-	S9+	S9-	S9+	S9-	S9+	S9-	S9+
H20	(137)	(159)	(13)	(16)	(35)	(50)	(29)	(31)	(7)	(13)
			15							
			16							
19.5			(16)							
	138	141	13	14		46	36	28		14
	136	153	16	18		48	28	30		23
39.1	(137)	(147)	(15)	(16)		(47)	(32)	(29)		(19)
	130	149	15	10	38	49	23	28	6	18
	156	170	15	21	40	51	29	24	8	14
78.1	(143)	(160)	(15)	(16)	(41)	(50)	(26)	(26)	(7)	(16)
	159	156	15	16	48	52	28	26	8	15
	166	144	11	14	36	49	28	31	8	14
156	(163)	(150)	(13)	(15)	(42)	(51)	(28)	(29)	(8)	(15)
	127	143	9	15	49	59	30	32	8	15
	149	165	16	9	32	57	20	31	3	11
313	(138)	(154)	(13)	(12)	(41)	(58)	(25)	(32)	(6)	(13)
	156	136	14	14	47	33	22	23	7	23
	176	150	15	9	38	51	23	40	6	11
625	(166)	(143)	(15)	(12)	(43)	(42)	(23)	(32)	(7)	(17)
	191	144	9*	20	38	54	51	24	11	14
	155	157	8*	11	39	39	36	28	7	13
1250	(173)	(151)	(9*)	(16)	(39)	(47)	(44)	(26)	(9)	(14)
	72*	100*		11*	40	38*	13*	30*	14	10*
	59*	102*		8*	38	39*	18*	20*	9	16*
2500	(66*)	(101*)		(10*)	(39)	(39*)	(16*)	(25*)	(12)	(13*)
					25*				9*	
					28*				6*	
5000					(27*)				(8*)	
Judgement	—	—	—	—	—	—	—	—	—	—
Specific Mutagenicity										
Positive Control	AF2 (802)	2AA (1031)	NaN3 (582)	2AA (243)	AF2 (245)	2AA 20 (1502)	AF2 (424)	2AA (455)	9AA (379)	2AA (175)

Experimental Data

Con. μg/plate	Number of Revertants/plate, Base-substitution					
	TA102		TA104		WP2uvrA/pKM101	
	S9-	S9+	S9-	S9+	S9-	S9+
H20	(286)	(364)	(275)	(306)	(112)	(158)
	291	329	225	295	107	126
	292	356	256	316	92	117
78.1	(292)	(343)	(241)	(306)	(100)	(122)
	263	332	306	292	108	129
	252	350	263	324	93	121
156	(283)	(341)	(285)	(308)	(101)	(125)
	299	341	249	343	104	138
	248	338	282	322	105	144
313	(274)	(340)	(266)	(333)	(105)	(141)
	201	352	278	306	113	155
	276	350	276	317	102	130
625	(239)	(351)	(277)	(312)	(108)	(143)
	242	334	263	307	99	119
	246	300	273	322	111	130
1250	(244)	(317)	(268)	(315)	(105)	(125)
	113*	181*	199*	256*	60*	135*
	109*	193*	165*	255*	0*	82*
2500	(111*)	(187*)	(182*)	(256*)	(30*)	(109*)
	0*	0*	115*	218*	0*	106*
	0*	0*	135*	204*	0*	77*
5000	(0*)	(0*)	(125*)	(211*)	(0*)	(92*)
Judgement	—	—	—	—	—	—
Specific Mutagenicity						
Positive Control	BLM	2-AA	PA	2-AA	AF-2	2-AA
	(682)	(1278)	(2145)	(1429)	(871)	(859)