

Figure 9 Incidence and multiplicity of liver cancer in B6C3F1 mice

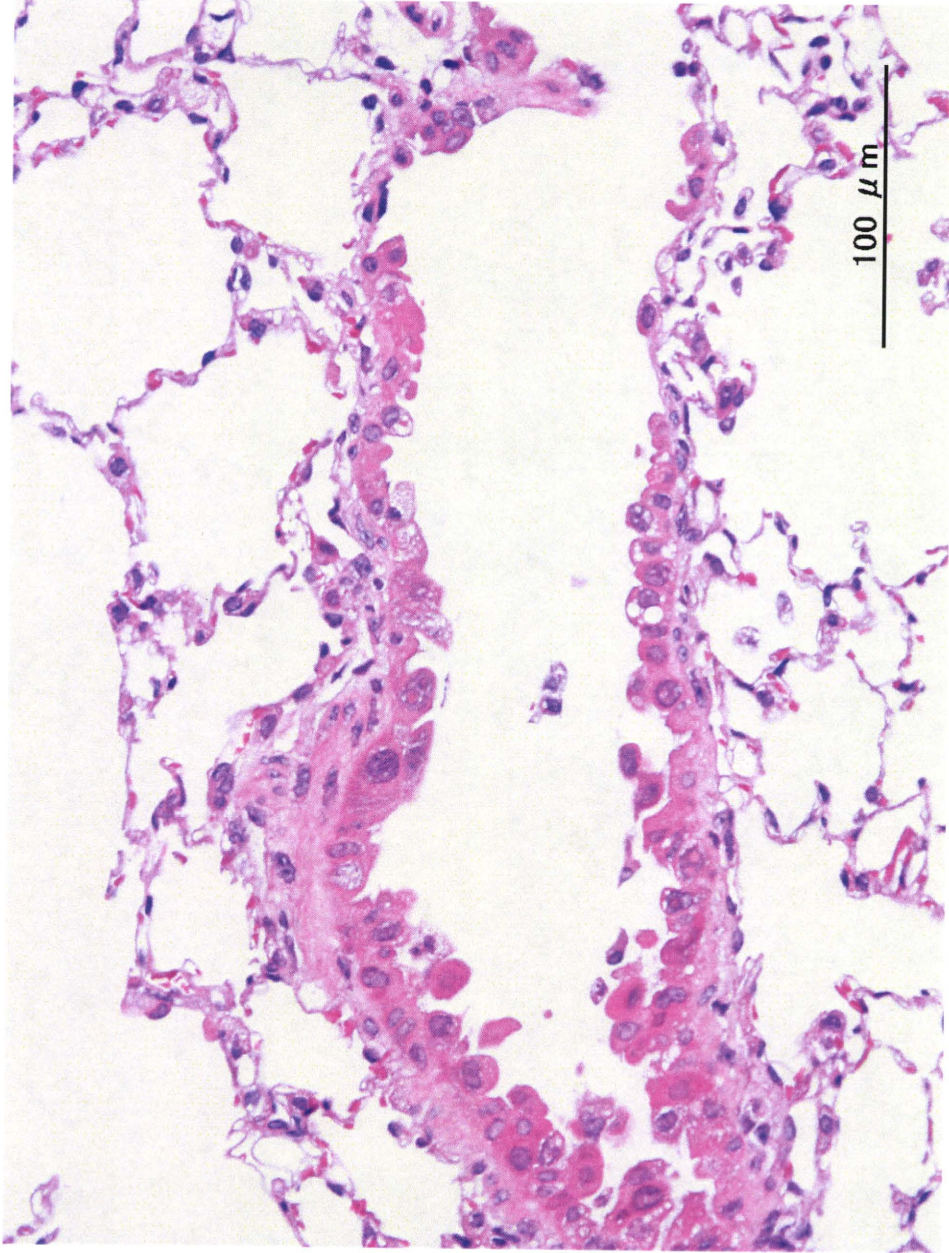


Figure 10 Representative photography of NTCU-treated mice terminal bronchiole

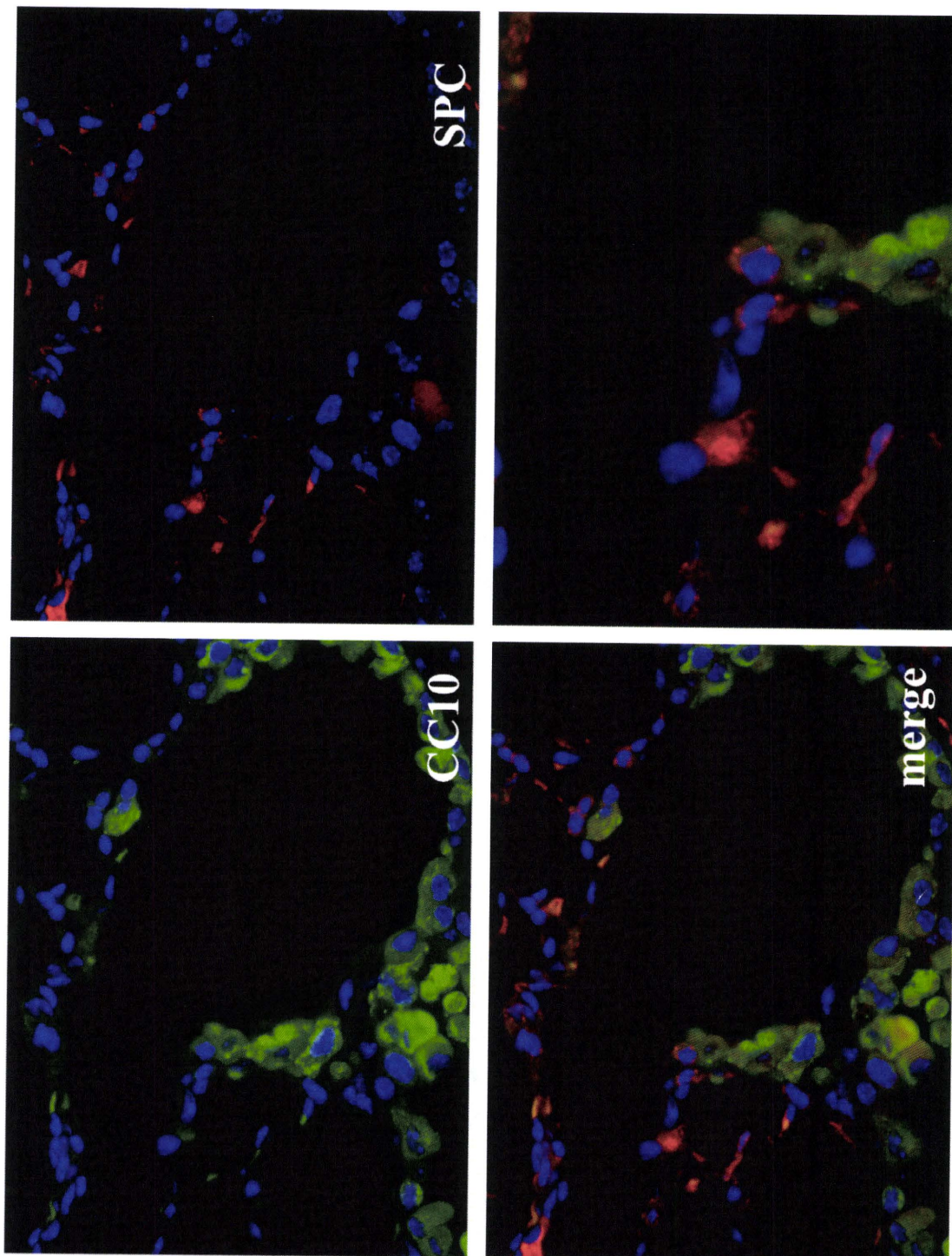


Figure 11 Identification of BASC in acetone-treated mice terminal bronchiole

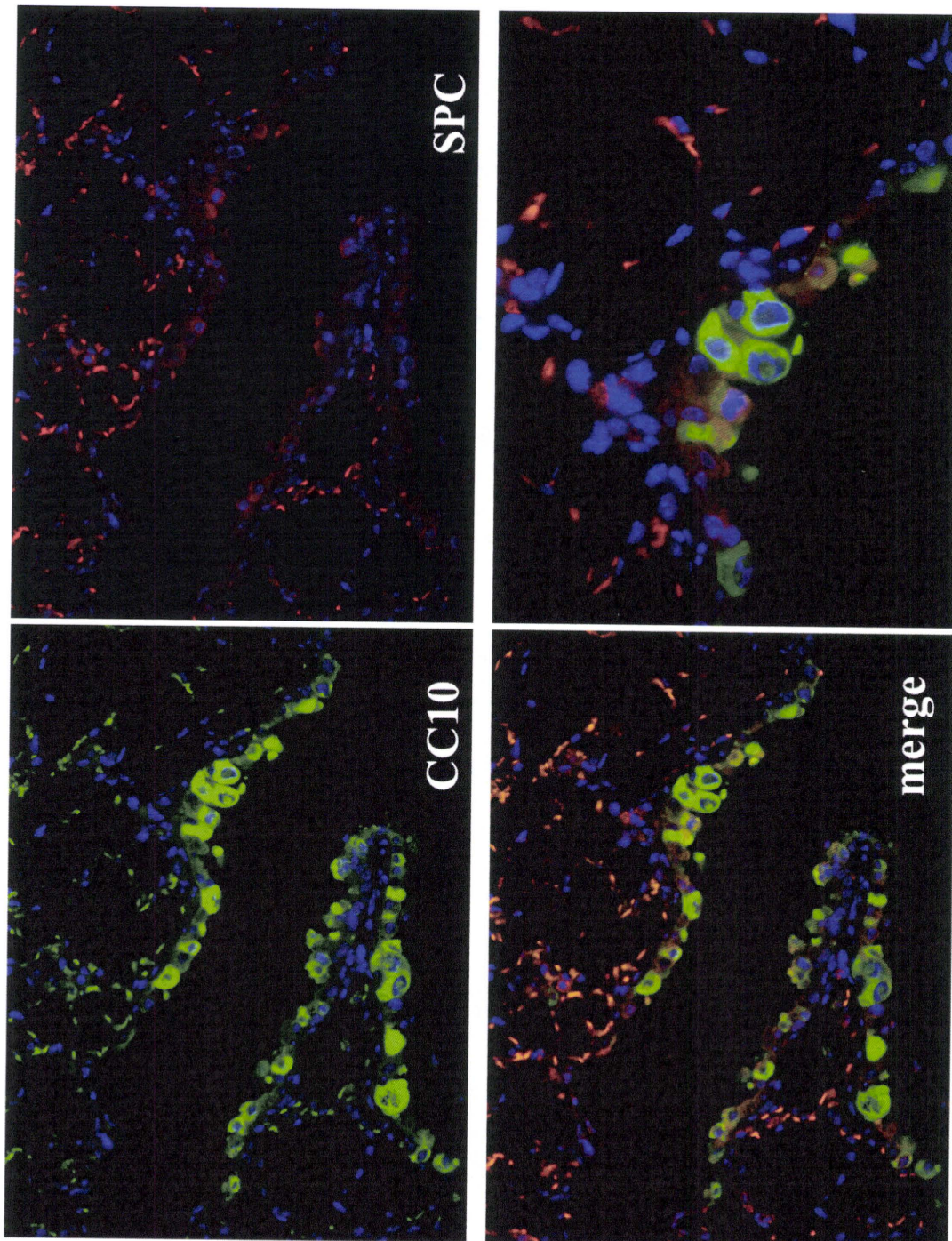


Figure 12 Identification of BASC in NTCU-treated mice terminal bronchiole

Table 1  
Effects dammar resin on body weight (g)

Treatment	No. of animals	week									
		0	1	2	3	4	5	6	7	8	9
<b>DMBDD +</b>											
0	15	142.9	159.3	183.2	174.6	189.7	224.8	251.2	266.4	280.0	289.0
0.03%	15	143.9	160.2	183.3	175.0	183.6	220.2	247.6	263.0	279.2	288.9
2%	15	144.0	161.6	185.1	176.7	188.0	211.4	233.4	249.4	259.6	266.1
<b>DMBDD -</b>											
0	6	145.0	190.7	219.3	249.4	279.3	298.0	316.4	328.1	340.0	347.4
2%	6	143.0	189.0	215.0	245.3	272.8	277.8	293.3	304.2	316.6	316.1

\*Significantly different from control group.

Table 1 (continued)  
Effects of dammar resin on body weight (g)

Treatment	No. of animals	week																
		10	11	12	13	14	15	16	17	18								
DMBDD+																		
	0	15	293.9	305.0	311.2	317.3	322.7	333.2	353.7	345.0	332.2							
	0.03%	15	293.8	309.4	316.7	321.5	329.1	332.6	346.4	353.0	337.0							
	2%	15	268.6*	276.6*	277.0*	280.0*	285.4*	291.7*	294.7*	299.9*	286.3*							
DMBDD-																		
	0	6	351.9	365.9	373.1	376.5	383.4	393.2	400.5	403.5	389.8							
	2%	6	322.1*	334.9*	337.5*	338.4*	346.8*	355.8*	362.4*	365.9*	352.0*							

\*Significantly different from control group.

Table 2  
Effects of dammar resin on final body weight (g)

Treatment	No. of animals	Final body weight(g)
DMBDD+		
Dammar resin		
0	15	333.2±18.1
0.03%	15	337.0±15.6
2%	15	286.3±11.9 *
DMBDD-		
0	6	389.8±13.9
2%	6	352.0±19.3 *

\*Significantly different from control group.

Table 3 Food intake (g/day/rat)

Treatment	No. of animals	week									
		1	2	3	4	5	6	7	8	9	
Dammar resin											
	0	15	9.8	12.1	9.4	7.7	15.3	16.3	15.3	14.2	15.2
	0.03%	15	10.1	11.8*	9.3	7.8	14.1	15.7	14.9	13.8	14.9
	2%	15	10.1	12.1	9.1	6.4	14.5	12.6*	15.5	14.0	15.3
DMBDD+											
	0	6	15.4	16.4	17.6	18.0	18.7	16.3	16.3	14.9	15.9
	2%	6	15.2	16.5	17.6	18.3	17.7*	13.0*	15.3	14.1	14.3
DMBDD-											

\*Significantly different from control group.



Table 3 (continued)  
Food intake (g/day/rat)

Treatment	No. of animals	week																	
		10	11	12	13	14	15	16	17	18									
Dammar resin		14.6	15.0	14.2	14.7	15.0	14.4	14.8	15.0	15.0	14.8	15.0	15.6	15.5	15.5	14.8	14.8	15.6	15.5
DMBDD +																			
0	15	14.6	15.0	14.2	14.7	15.0	14.4	14.8	15.0	15.0	14.4	14.8	15.0	15.0	14.8	14.8	15.0	15.6	15.5
0.03%	15	14.6	15.1	14.6	15.0	15.5	14.3	14.8	15.5	14.3	14.3	14.8	15.6	15.5	14.8	14.8	15.6	15.6	15.5
2%	15	13.9	13.2*	12.6	12.7*	13.7	11.6*	13.0*	13.7	11.6*	11.6*	13.0*	12.8*	13.4	13.0*	13.0*	12.8*	12.8*	13.4
DMBDD -																			
0	6	16.0	17.2	16.8	17.3	16.9	16.6	16.4	16.9	16.6	16.6	16.4	17.4	16.5	16.4	16.4	17.4	17.4	16.5
2%	6	13.8*	14.0*	14.1*	15.4	16.4	14.8	14.4*	16.4	14.8	14.8	14.4*	16.1	15.9	14.4*	14.4*	16.1	16.1	15.9

\*Significantly different from control group.

Table 4  
Intake of Dammar resin

Treatment	No. of animals	Total intake of dammar resin (g/kg b.w.)	Average intake of dammar resin (g/kg b.w./day)
<b>DMBDD +</b>			
0	15	0	0
0.03%	15	2.047	0.016
2%	15	134.902	1.070
<b>DMBDD -</b>			
0	6	0	0
2%	6	138.744	1.101

Table 5  
Water intake (g/day/rat)

Treatment	No. of animals	week									
		1	2	3	4	5	6	7	8	9	
DMBDD+											
Dammar resin	0	15	15.0	17.6	14.0	11.7	19.7	21.9	20.7	20.1	19.7
	0.03%	15	14.1	16.9	13.8	11.3	19.0	23.1	21.8	21.1	20.8
	2%	15	15.6	17.7	14.5	13.5	20.5	23.3	22.9	21.6	19.8
DMBDD-											
Dammar resin	0	6	23.3	25.0	22.4	23.0	26.5	25.2	23.8	22.7	22.1
	2%	6	23.1	24.3	23.2	24.1	25.0	23.2	23.9	22.8	21.7*

\*Significantly different from control group.

Table 5 (continued)  
Water intake (g/day/rat)

Treatment	No. of animals	week															
		10	11	12	13	14	15	16	17	18							
Dammar resin																	
DMBDD+																	
	0	15	19.8	19.0	18.6	19.6	19.3	21.9	19.1	21.1	21.3						
	0.03%	15	20.3	19.8	19.8	20.5	20.7	19.3	21.3	22.4	22.8						
	2%	15	18.7	17.7	16.8	17.6	17.9	18.6	17.1*	19.9	19.3						
DMBDD-																	
	0	6	23.4	22.3	22.8	22.7	22.7	20.7	21.6	24.1	23.0						
	2%	6	20.3	20.0	22.8	20.0	21.3	18.8	19.5	25.0	24.3						

\*Significantly different from control group.

Table 6  
Data on organ weights

Treatment	No. of animals	Liver		Kidney	
		Absolute (g)	Relative (g)	Absolute (g)	Relative (g)
Dammar resin					
0	15	8.06±0.45	2.43±0.11	2.06±0.11	0.62±0.04
0.03%	15	8.30±0.45	2.47±0.12	2.05±0.16	0.61±0.03
2%	15	8.28±0.93	2.89±0.08 *	1.82±0.12 *	0.64±0.03
DMBDD+					
0	6	10.18±0.18	2.61±0.05	2.36±0.17	0.35±0.11
2%	6	11.07±0.51 *	3.14±0.07 *	2.20±0.12	0.30±0.02
DMBDD-					

\*Significantly different from control group.

Table 6 (continued)  
Data on organ weights

Treatment	No. of animals	Spleen		Heart	
		Absolute (g)	Relative (g)	Absolute (g)	Relative (g)
DMBDD+					
0	15	0.73±0.07	0.22±0.02	0.89±0.06	0.27±0.01
0.03%	15	0.75±0.06	0.22±0.02	0.90±0.06	0.27±0.01
2%	15	0.67±0.06*	0.24±0.02	0.82±0.05*	0.29±0.02*
DMBDD-					
0	6	0.71±0.05	0.18±0.02	0.99±0.05	0.25±0.01
2%	6	0.65±0.03*	0.184±0.01	0.94±0.06	0.27±0.02

\*Significantly different from control group.

Table 6 (continued)  
Data on organ weights

Treatment	No. of animals	Testis	
		Absolute (g)	Relative (g)
DMBDD —			
	0	3.21±0.12	0.82±0.03
	2%	3.07±0.14	0.87±0.03 *

\*Significantly different from control group.

Table 7  
Development of GST-P positive foci in livers (Diameter  $\geq 0.2$  mm)

Treatment	No. of animals	No. of foci (No./cm <sup>2</sup> )	Area of foci (mm <sup>2</sup> /cm <sup>2</sup> )
DMBDD+			
Dammar resin	0	9.5±2.4	0.396±0.133
	15		
	0.03%	10.7±3.5	0.453±0.165
	15		
	2%	14.5±3.7*	0.721±0.263*
	15		
DMBDD-			
	0	0.0±0.0	0.000±0.000
	6		
	2%	0.0±0.0	0.000±0.000
	6		

\*Significantly different from control group.



Table 8  
Aberrant Crypt foci (ACF) data (experiment1)

Group	Treatment	No. of animals	1 crypt	2 crypts	3 crypts	$\geq 4$ crypts	Total
1	0	15	28 $\pm$ 8	96.9 $\pm$ 21.5	88.1 $\pm$ 19.3	124.1 $\pm$ 29.7	337.2 $\pm$ 60.7
2	0.03%	15	32.9 $\pm$ 15.8	78.6 $\pm$ 21.6	84 $\pm$ 19.1	128.9 $\pm$ 25.5	324.4 $\pm$ 64.2
3	2%	15	33.1 $\pm$ 14	111.3 $\pm$ 36.8	100.9 $\pm$ 21.9	150.3 $\pm$ 38.6	395.5 $\pm$ 91.8

Table 9

Incidence and number of hyperplastic and neoplastic lesions in the thyroid (experiment I)

Group No.	Treatment	No. of animals	Hyperplasia, follicular cell		Adenoma, follicular cell		Carcinoma, follicular cell		Total tumor	
			Incidence (%)	Multiplicity	Incidence (%)	Multiplicity	Incidence (%)	Multiplicity	Incidence (%)	Multiplicity
1	0	15	15 (100)	3.1±2.2	7 (46.7)	0.7±0.9	4 (26.7)	0.3±0.5	8 (53.3)	1.0±1.1
2	0.03%	15	14 (93.3)	2.7±2.2	5 (33.3)	0.5±0.7	1 (6.7)	0.1±0.4	6 (40.0)	0.5±0.7
3	2%	15	15 (100)	2.8±2.2	6 (40.0)	0.5±0.6	1 (6.7)	0.1±0.3	7 (46.7)	0.5±0.7

Table 15  
Incidence and number of hyperplastic and neoplastic lesions in the kidney (experiment 1)

Group	Treatment	No. of animals	Renal cell papilloma		Renal cell carcinoma		Nephroblastoma		Total tumor			
			Incidence (%)	Multiplicity	Incidence (%)	Multiplicity	Incidence (%)	Multiplicity				
1	0	15	11 (73.3)	1.0±0.8	0 (0)	0.0±0.0	0 (0)	1 (6.7)	0.1±0.3	0	0	
2	0.03%	15	7 (46.7)	0.6±0.7	1 (6.7)	0.1±0.3	0 (0)	0.0±0.0	0 (0)	0.0±0.0	1 (6.7)	0.1±0.3
3	2%	15	5 (33.3)	0.4±0.6	2 (13.3)	0.1±0.4	0 (0)	0.0±0.0	0 (0)	0.0±0.0	2 (13.3)	0.1±0.4

Table 16  
Incidence and number of hyperplastic and neoplastic lesions in the bladder (experiment1)

Group	Treatment	No. of animals	PN hyperplasia		Papilloma		Transitional cell carcinoma		Total tumor	
			Incidence (%)	Multiplicity	Incidence (%)	Multiplicity	Incidence (%)	Multiplicity	Incidence (%)	Multiplicity
1	0	15	4 (26.7)	0.3±0.6	1 (6.7)	0.1±0.3	2 (13.3)	0.1±0.4	3 (20.0)	0.2±0.4
2	0.03%	15	4 (26.7)	0.3±0.5	1 (6.7)	0.1±0.3	0 (0)	0.0±0.0	1 (6.7)	0.1±0.3
3	2%	15	3 (20.0)	0.3±0.7	0 (0)	0.0±0.0	0 (0)	0.0±0.0	0 (0)	0.0±0.0