

LIST OF TABLES

Table		Page
(1)	Effect of treatment of 2 Gy and 6 Gy whole body irradiated mice with ectoine on IL-1 beta in the liver.	24
(2)	Effect of treatment of 2 Gy and 6 Gy whole body irradiated mice with ectoine on IL-6 in the liver.	25
(3)	Effect of treatment of 2 Gy and 6 Gy whole body irradiated mice with ectoine on IL-10 in the liver.	27
(4)	Effect of treatment of 2 Gy and 6 Gy whole body irradiated mice with ectoine on PGE2 in the liver.	29
(5)	Effect of treatment of 2 Gy and 6 Gy whole body irradiated mice with ectoine on MDA in the liver.	31
(6)	Effect of treatment of 2 Gy and 6 Gy whole body irradiated mice with ectoine on reduced glutathione in the liver.	33
(7)	Effect of treatment of 2 Gy and 6 Gy whole body irradiated mice with ectoine on oxidized glutathione in the liver.	35
(8)	Effect of treatment of 2 Gy and 6 Gy whole body irradiated mice with ectoine on IL-1 in the brain.	36
(9)	Effect of treatment of 2 Gy and 6 Gy whole body irradiated mice with ectoine on IL-6 in the brain.	38
(10)	Effect of treatment of 2 Gy and 6 Gy whole body irradiated mice with ectoine on IL-10 in the brain.	40
(11)	Effect of treatment of 2 Gy and 6 Gy whole body irradiated mice with ectoine on PGE2 in the brain.	42
(12)	Effect of treatment of 2 Gy and 6 Gy whole body irradiated mice with ectoine on MDA in the brain.	44
(13)	Effect of treatment of 2 Gy and 6 Gy whole body irradiated mice with ectoine on reduced glutathione in the brain.	46
(14)	Effect of treatment of 2 Gy and 6 Gy whole body irradiated mice with ectoine on oxidized glutathione in the brain.	48
(15)	Effect of treatment of 2 Gy and 6 Gy whole body irradiated mice with ectoine on IL-1 beta in the testis.	50
(16)	Effect of treatment of 2 Gy and 6 Gy whole body irradiated mice with ectoine on IL-6 in the testis	52
(17)	Effect of treatment of 2 Gy and 6 Gy whole body irradiated mice with ectoine on IL-10 in the testis	54
(18)	Effect of treatment of 2 Gy and 6 Gy whole body irradiated mice with ectoine on PGE2 in the testis	56

Table		Page
(19)	Effect of treatment of 2 Gy and 6 Gy whole body irradiated mice with ectoine on MDA in the testis	58
(20)	Effect of treatment of 2 Gy and 6 Gy whole body irradiated mice with ectoine on reduced glutathione in the testis	61
(21)	Effect of treatment of 2 Gy and 6 Gy whole body irradiated mice with ectoine on oxidized glutathione in the testis	62

LIST OF FIGURES

Figure		Page
(1)	Structural formula of ectoine	8
(2)	Medical linear accelerator.	10
(3)	Standard curve for IL-6	13
(4)	Standard curve for IL-1 Beta	14
(5)	Standard curve for IL-10	16
(6)	standard curve for Prostaglandine E2	17
(7)	Standard curve of MDA	19
(8)	Standard curve of GSH	20
(9)	Standard curve for GSSG	21
(10)	Changes in IL-1 beta in mouse liver after one day and 7 days of whole body X-irradiation with (a) 2 Gy and (b) 6 Gy and treatment with ectoine.	24
(11)	Changes in IL-6 in mouse liver after one day and 7 days of whole body X-irradiation with (a) 2 Gy and (b) 6 Gy and treatment with ectoine.	26
(12)	Changes in IL-10 in mouse liver after one day and 7 days of whole body X-irradiation with (a) 2 Gy and (b) 6 Gy and treatment with ectoine.	28
(13)	Changes in PGE2 in mouse liver after one day and 7 days of whole body X-irradiation with (a) 2 Gy and (b) 6 Gy and treatment with ectoine.	30
(14)	Changes in MDA in mouse liver after one day and 7 days of whole body X-irradiation with (a) 2 Gy and (b) 6 Gy and treatment with ectoine.	32
(15)	Changes in reduced glutathione in mouse liver after one day and 7 days of whole body X-irradiation with (a) 2 Gy and (b) 6 Gy and treatment with ectoine.	34
(16)	Changes in oxidized glutathione in mouse liver after one day and 7 days of whole body X-irradiation with (a) 2 Gy and (b) 6 Gy and treatment with ectoine.	35
(17)	Changes in IL-1 beta in mouse brain after one day and 7 days of whole body X-irradiation with (a) 2 Gy and (b) 6 Gy and treatment with ectoine.	37
(18)	Changes in IL-6 in mouse brain after one day and 7 days of whole body X-irradiation with (a) 2 Gy and (b) 6 Gy and treatment with ectoine.	39

(19)	Changes in IL-10 in mouse brain after one day and 7 days of whole body X-irradiation with (a) 2 Gy and (b) 6 Gy and treatment with ectoine.	41
(20)	Changes in PGE2 in mouse brain after one day and 7 days of whole body X-irradiation with (a) 2 Gy and (b) 6 Gy and treatment with ectoine.	43
(21)	Changes in MDA in mouse brain after one day and 7 days of whole body X-irradiation with (a) 2 Gy and (b) 6 Gy and treatment with ectoine.	45
(22)	Changes in reduced glutathione in mouse brain after one day and 7 days of whole body X-irradiation with (a) 2 Gy and (b) 6 Gy and treatment with ectoine.	47
(23)	Changes in oxidized glutathione in mouse brain after one day and 7 days of whole body X-irradiation with (a) 2 Gy and (b) 6 Gy and treatment with ectoine.	49
(24)	Changes in IL-1 beta in mouse testis after one day and 7 days of whole body X-irradiation with (a) 2 Gy and (b) 6 Gy and treatment with ectoine.	51
(25)	Changes in IL-6 in mouse testis after one day and 7 days of whole body X-irradiation with (a) 2 Gy and (b) 6 Gy and treatment with ectoine.	53
(26)	Changes in IL-10 in mouse testis after one day and 7 days of whole body X-irradiation with (a) 2 Gy and (b) 6 Gy and treatment with ectoine.	55
(27)	Changes in PGE2 in mouse testis after one day and 7 days of whole body X-irradiation with (a) 2 Gy and (b) 6 Gy and treatment with ectoine.	57
(28)	Changes in MDA in mouse testis after one day and 7 days of whole body X-irradiation with (a) 2 Gy and (b) 6 Gy and treatment with ectoine.	59
(29)	Changes in reduced glutathione in mouse testis after one day and 7 days of whole body X-irradiation with (a) 2 Gy and (b) 6 Gy and treatment with ectoine.	61
(30)	Changes in oxidized glutathione in mouse testis after one day and 7 days of whole body X-irradiation with (a) 2 Gy and (b) 6 Gy and treatment with ectoine.	62

LIST OF ABBREVIATIONS

ABC	: Avidin-Biotin-Peroxidase Complex.
C.AMP	: Cyclic adenosine monophosphate.
COX-1	: Cyclooxygenase-1.
COX-2	: Cyclooxygenase-2.
DTNB	: 5,5'-dithiobis-2-nitrobenzoic acid.
EDTA	: Ethylene diaminetetraacetic acid
ELISA	: Enzyme-Linked Immunosorbent Assay.
GI	: Gastrointestinal.
GPx	: Glutathione Peroxidase.
Gray(Gy)	: 100 rad.
GSH	: Reduced glutathione.
GSSG	: Oxidized glutathione.
HO.	: Hydroxyl anion.
HRP	: Horseradish peroxidase.
MDA	: Malondialdehyde.
O₂'	: Superoxide anion.
OD	: Optical density .
PBS	: Phosphate buffered saline.
PGE2	: Prostaglandine E2.
PGI₂	: Prostacycline.
PGs	: Prostaglandines.
Rad	: Radiation absorbed dose.
RNS	: Reactive Nitrogen Species.

RO[•]	: Alkoxyl radical.
RO₂[•]	: Peroxyl radical.
ROS	: Reactive Oxygen Species.
SOD	: Superoxide Dismutase.
SV	: Sievert.
TBS	: Tris Buffered Saline.
TCA	: Trichloroacetic acid.
TMB	: tetramethylbenzidine.