

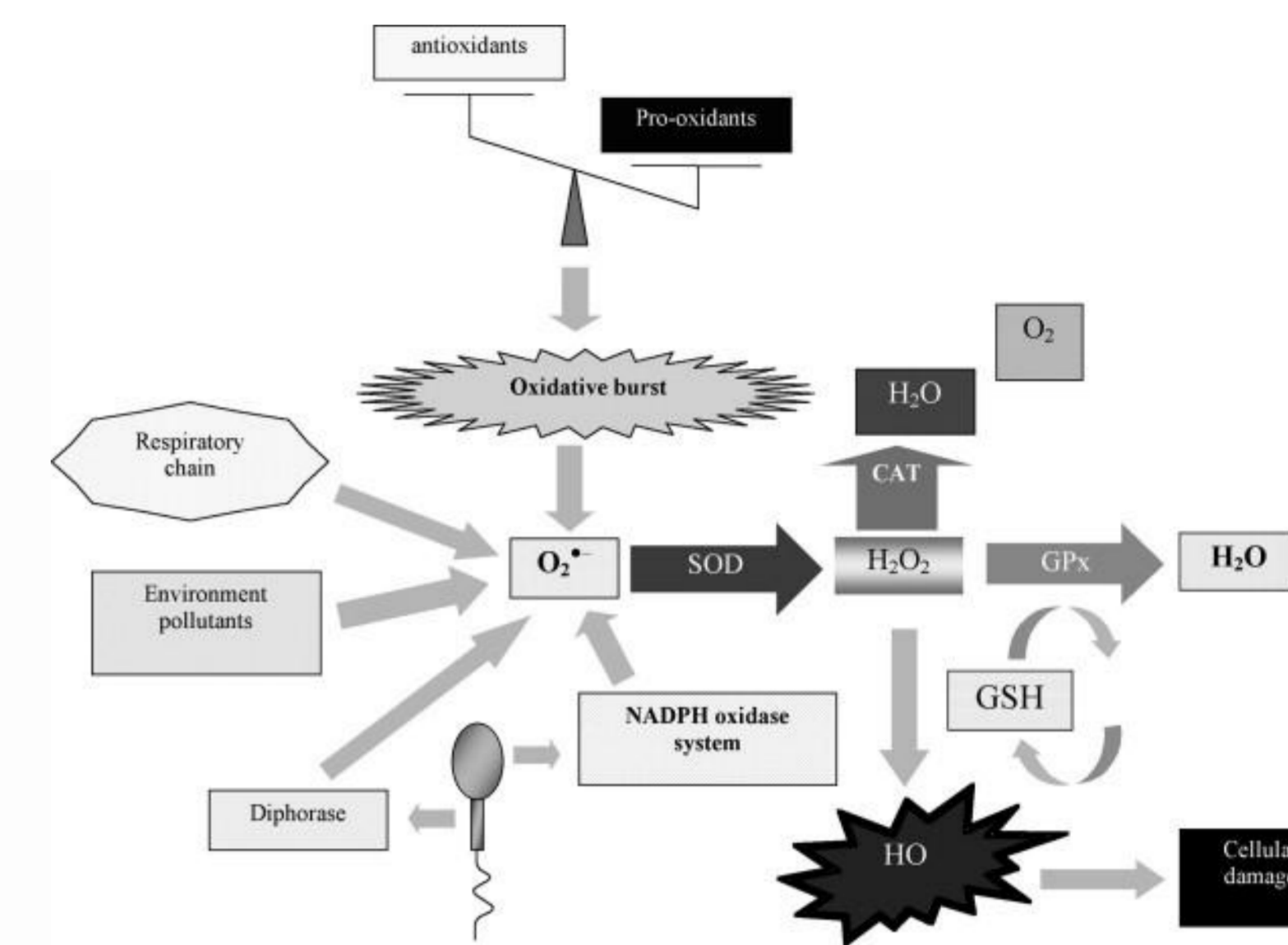
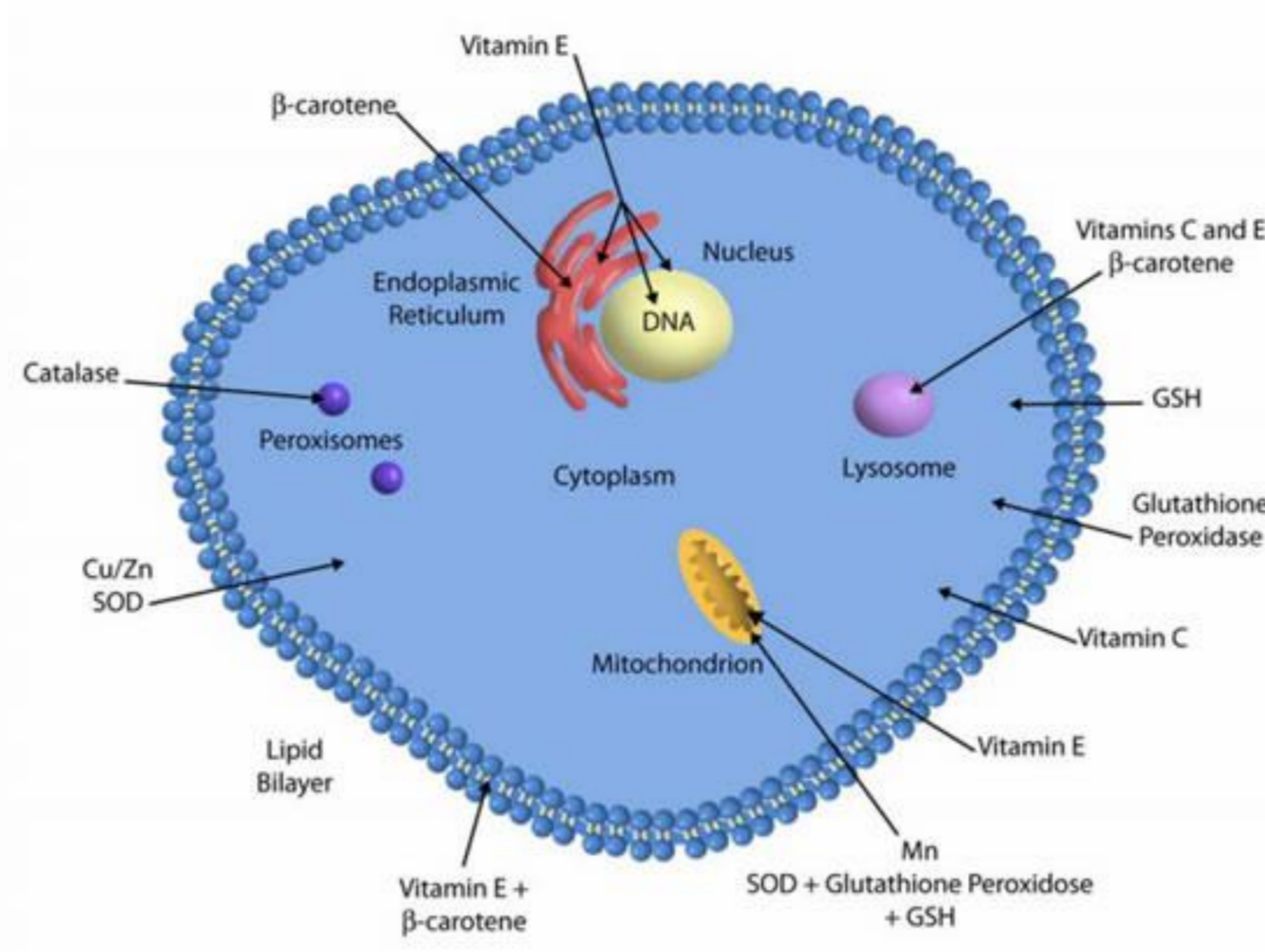
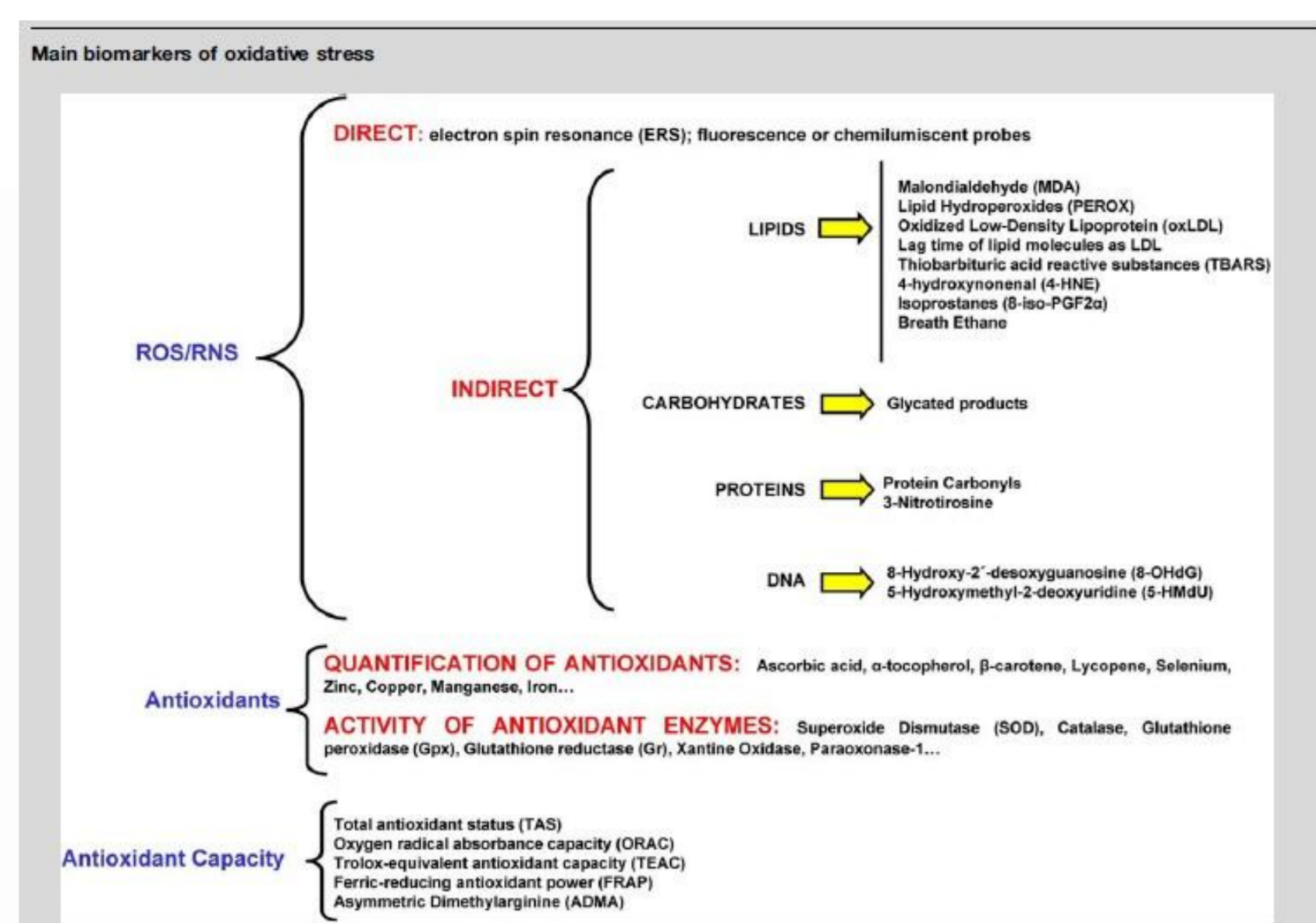
# OXIDATIVE STRESS BIOMARKERS AND ANTIOXIDANT GENE POLYMORPHISMS

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We have evaluated oxidative stress biomarkers using biochemical methods and screened antioxidant capacity related gene polymorphisms (Single Nucleotide Polymorphisms - SNP) using molecular methods.



Our study included 28 healthy individuals of different ages. All participants gave their written informed consent. Peripheral blood samples (5 ml) were collected for each patient to perform biochemical measurements and DNA extraction.

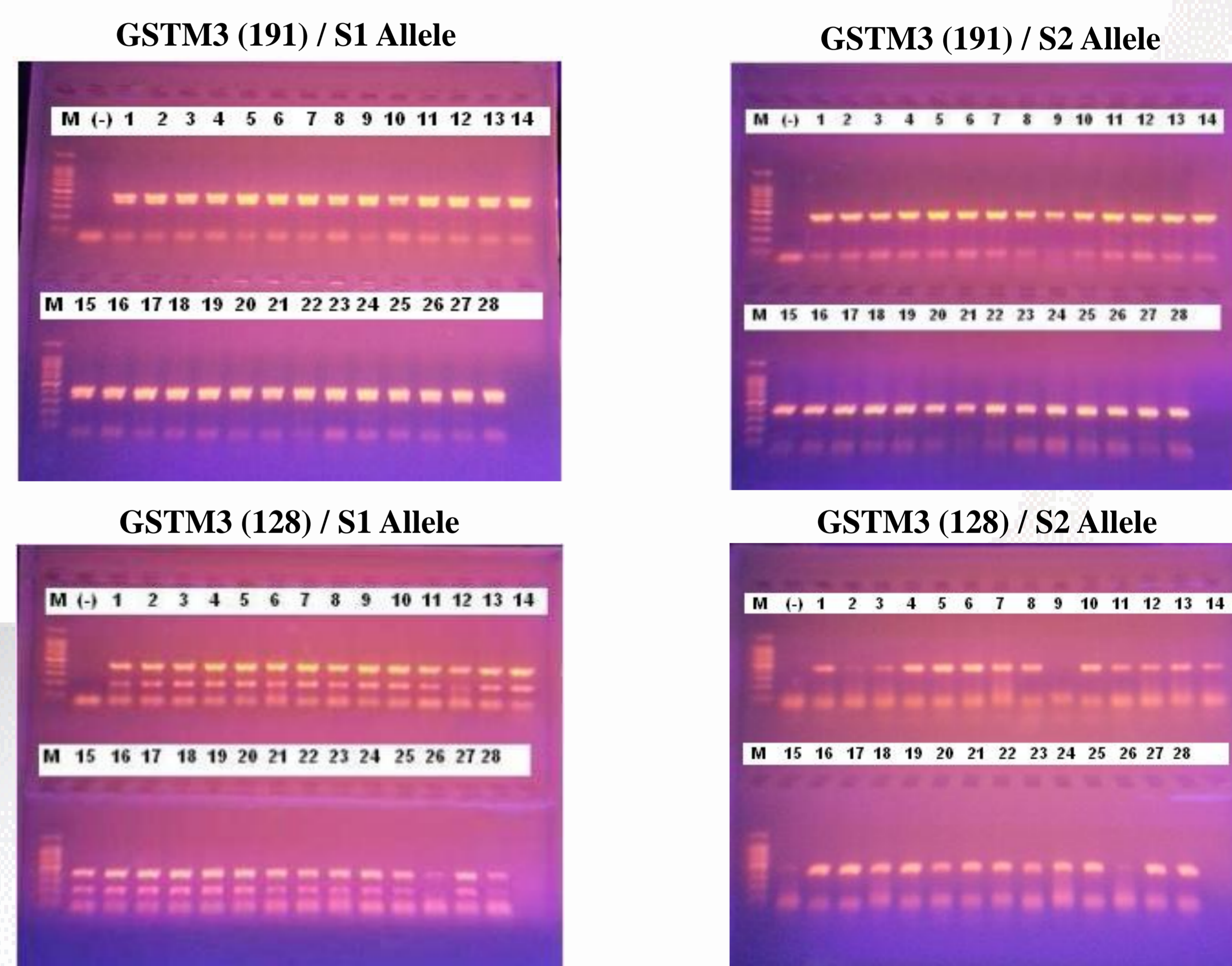
Amplification Refractory Mutation System (ARMS) - PCR was used to genotype antioxidant genes for each patient. Among the 26 SNP's for 15 oxidative stress related genes, 7 primer couples for 7 different SNP's (GPX4 (120, 131); GPX7 (72); GSTM1 (67); GSTM3 (7, 128, 191)) sharing the same ARMS-PCR reaction conditions were determined.



PLASMA ANTIOXIDANTS	
Albumin (g / dl)	7.87 ± 0.67
Bilirubin (mg / dl)	0.37 ± 0.31
Uric acid (mg / dl)	3.73 ± 1.10

ERYTHROCYTE ANTIOXIDANTS	
Glutathione (µmol / g Hb)	4.22 ± 0.41
Glutathione Reductase (units / g Hb)	5.62 ± 1.86
Glutathione Peroxidase (units / g Hb)	165.06 ± 20.82
Glutathione Transferase (units / g Hb)	29.43 ± 10.72
Superoxide Dismutase (units / g Hb)	771 ± 147
Catalase (units / g Hb)	1421 ± 436

OXIDATIVE DAMAGE	
Protein Oxidation (nmol/mg protein)	75.72 ± 21.87
Plasma Lipid Peroxidation (nmol/ml)	0.19 ± 0.09
Urine Lipid Peroxidation (nmol/ml)	0.20 ± 0.41



GENOTYPE (S1/S2 Alleles)	S1S1	S1S2	S2S2
GPX4 (120)	(- / 3)	25	(- / 3)
GPX4 (131)	2	24	2
GPX7 (72)	28	-	-
GSTM1 (67)	3	25	-
GSTM3 (7)	-	28	-
GSTM3 (128)	28	-	-
GSTM3 (191)	-	28	-