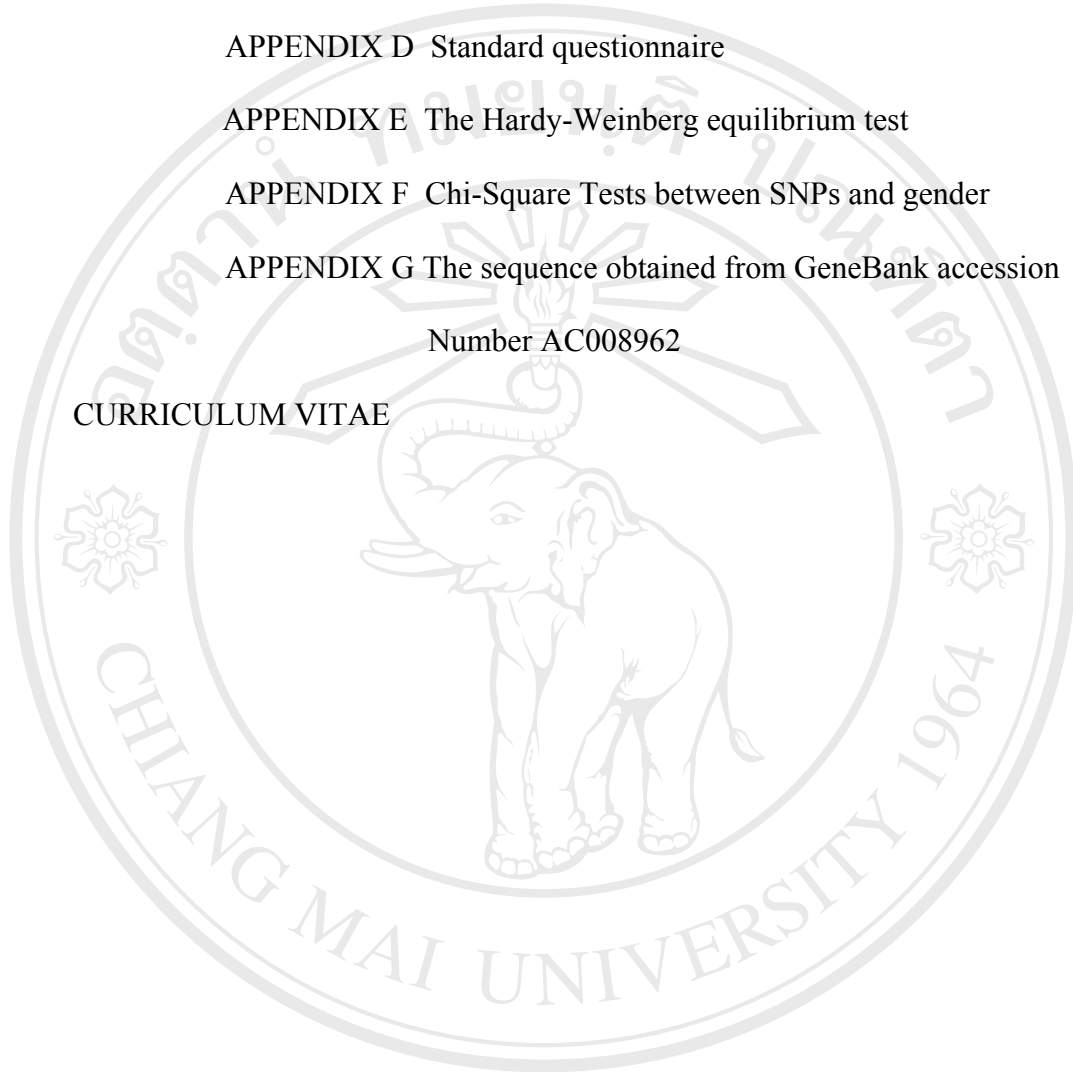


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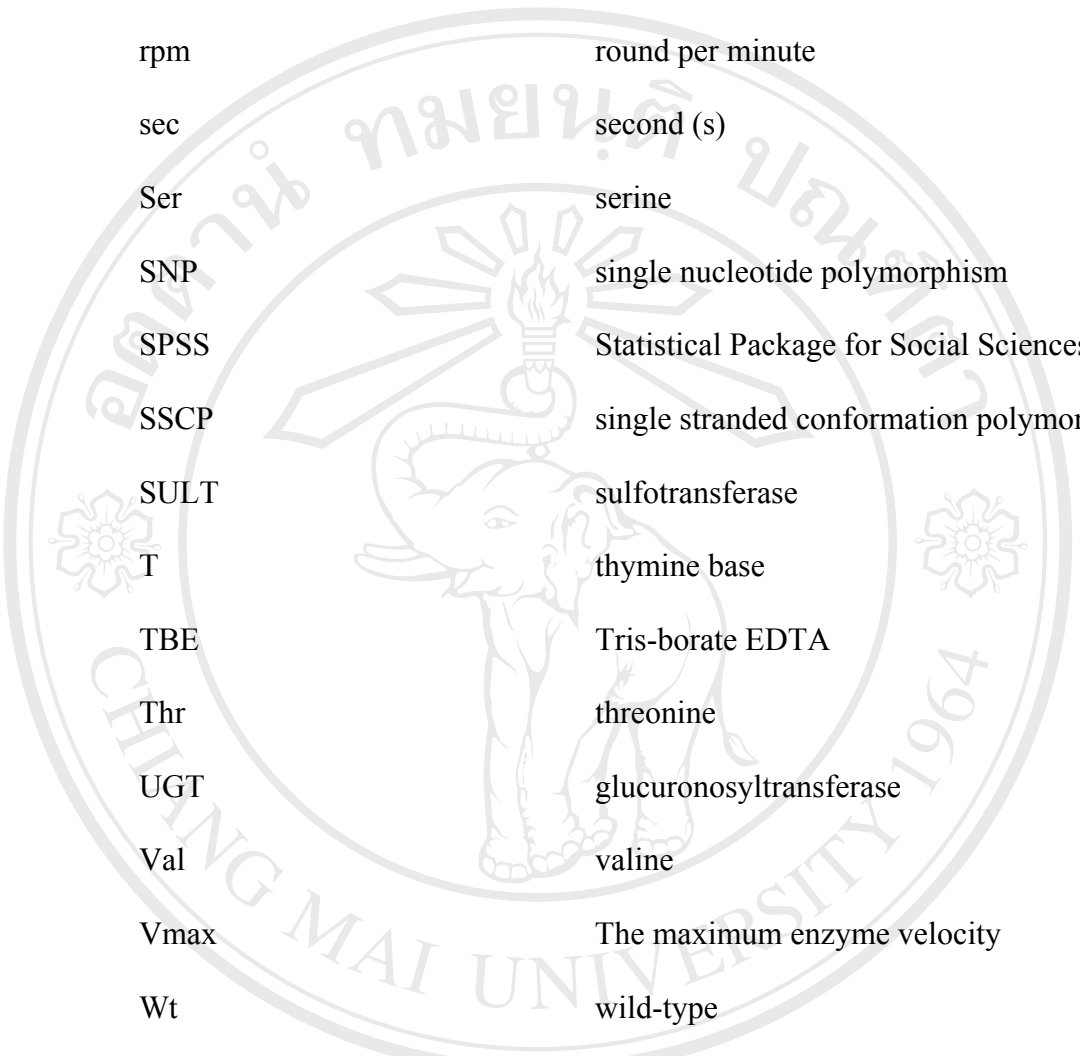
## ABBREVIATIONS AND SYMBOLS

|          |  |
|----------|--|
| %        | percentage   |
| μl       | microliter   |
| μM       | micromolar   |
| $\chi^2$ | chi-square test  |
| 3'-UTR   | 3'-untranslated region                                     |
| A        | adenine base   |
| Arg      | arginine   |
| ASA-PCR  | allele specific amplification-polymerase<br>chain reaction |
| Asp      | aspartic acid  |
| bp       | base pair  |
| BSA      | bovine serum albumin                                       |
| C        | cytosine base  |
| °C       | degree Celsius   |
| CI       | confidence interval  |
| CO       | carbon monoxide  |
| CYPs     | cytochromes P450   |
| CYP2A6   | cytochrome P450 2A6  |
| CYP2A7   | cytochrome P450 2A7  |
| CYP2A13  | cytochrome P450 2A13                                       |
| Cys      | cysteine   |
| dATP     | deoxyadenosine triphosphate                                |

|                |  |
|----------------|--|
| dCTP           | deoxycytidine triphosphate   |
| dGTP           | deoxyguanosine triphosphate  |
| DNA            | deoxyribonucleic acid  |
| DTT            | dithiothreitol   |
| dTTP           | deoxythymidine triphosphate  |
| e.g.           | exempli gratia   |
| EDTA           | ethylenediaminetetraacetic acid                                      |
| et al.         | and others   |
| etc.           | et cetera (and so forth)   |
| G              | guanine base   |
| Gln            | glutamine  |
| Gly            | glycine  |
| GSTs           | glutathione-S-transferases   |
| HCl            | hydrochloric acid  |
| His            | histidine  |
| het            | heterozygous type  |
| i.e.           | id est (that is)   |
| Ile            | isoleucine   |
| Kb             | kilobase or 1000 basepair  |
| KCl            | potassium chloride   |
| K <sub>m</sub> | the Michaelis-Menten Constant  |
| Leu            | leucine  |
| mASA-PCR       | mismatch allele-specific amplification-<br>polymerase chain reaction |



|                      |  |
|----------------------|--|
| MgCl <sub>2</sub>    | magnesium chloride   |
| min                  | minute (s)   |
| ml                   | milliliter   |
| mM                   | millimolar   |
| mRNA                 | messenger ribonucleic acid   |
| mt                   | mutant type  |
| Na <sub>2</sub> EDTA | ethylenediaminetetraacetic acid disodium salt                      |
| NaCl                 | sodium chloride  |
| NADPH                | reduced nicotinamide dinucleotide phosphate                        |
| ng                   | nanogram   |
| NATs                 | <i>N</i> -acetyl transferases                                      |
| NNAL                 | 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanol                      |
| NNK                  | 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanone                     |
| NNN                  | <i>N</i> -nitrosornicotine   |
| OR                   | odd ratio  |
| PAHs                 | polycyclic aromatic hydrocabons                                    |
| PCR                  | polymerase chain reaction  |
| PCR-RFLP             | polymerase chain reaction-restriction fragment length polymorphism |
| pg                   | picogram   |
| pH                   | power of hydrogen  |
| Pro                  | proline  |



|                  |   |
|------------------|---|
| RE               | restriction enzyme                        |
| RFLP             | restriction fragment length polymorphism  |
| rpm              | round per minute                          |
| sec              | second (s)                                |
| Ser              | serine                                    |
| SNP              | single nucleotide polymorphism            |
| SPSS             | Statistical Package for Social Sciences   |
| SSCP             | single stranded conformation polymorphism |
| SULT             | sulfotransferase                          |
| T                | thymine base                              |
| TBE              | Tris-borate EDTA                          |
| Thr              | threonine                                 |
| UGT              | glucuronosyltransferase                   |
| Val              | valine                                    |
| V <sub>max</sub> | The maximum enzyme velocity               |
| Wt               | wild-type                                 |