CLAIMS

1. An *in vitro* method for carrying out a companion epigenetic test which determines which disease subgroup a person is in, which method comprises detecting the presence or absence of at least 10 epigenetic chromosome interactions represented by the probes disclosed in Table 1 which relate to identifying predisposition to amyotrophic lateral sclerosis

2. A method according to claim 1 in which the presence or absence of at least one or more of the chromosome interactions defined by the primer pairs or probes in table 44 or 45 are detected.

3. A method according to any one of the preceding claims wherein said determining the presence of absence of chromosome interactions comprises using a probe which has at least 70% identity to, or comprises or is the same as, any of the specific probe sequences disclosed in table 1.

4. A method according to any one of the preceding claims which is carried out as a general diagnostic test for a common characteristic of a multiplicity of conditions, wherein the presence of a chromosomal interaction is determined which is common to more than one condition.