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JIS

JAPANESE INDUSTRIAL STANDARD

General rules for SDS-polyacrylamide gel electrophoresis analysis

JIS K 3838–1995

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In the event of any doubt arising,
the original Standard in Japanese is to be final authority.

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General rules for SDS-polyacrylamide gel electrophoresis analysis

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1. Scope This Japanese Industrial Standard specifies the methods for carrying out the quantitative analysis of protein or its subunit, or polypeptide and measuring their molecular weight by means of electrophoresis making polyacrylamide gel the supporting medium, after forming polypeptide-SDS compound by making metalic salt dodecyl sulfate [sodium dodecyl sulfate (hereafter referred to as SDS) and the like] interact with protein or polypeptide.

Remarks: The standards cited in this Standard are shown in Attached Table 1.

2. Common matters The matters which are common to this Standard shall be in accordance with JIS K 0050, JIS K 8001, JIS K 8008 and JIS R 3505.

3. Definition For the purpose of this Standard, in addition to those specified in JIS K 0213, JIS K 3600, JIS K 3610 and JIS Z 8103, the following definitions apply:

(1) crosslinking agent The agent necessary for making three dimensional network structure of polyacrylamide gel. There are vinyl compounds such as N,N'-methylenebis acrylamide, N,N'-propylenebis acrylamide, diacrylamide methyl ether.

(2) polymerization initiator The agent that radiates free radical and makes polymerization of acrylamide. There are ammonium peroxodisulfate, riboflavin, etc.

(3) polymerization accelerator The agent that helps make the polymerization initiator emit free radical. There are N,N,N',N'-tetramethylethylenediamine and the like.

(4) supporting plate The material for supporting such supporting medium as gel unable to form migration surface in the space by itself. There are plate, cylinder, etc. made of glass or synthetic high molecular.

(5) relative mobility The value obtained by dividing the migrating distance of sample protein by the migrating distance of standard protein.

(6) standard protein The protein the molecular weight or isoelectric point of which are known and which is used for electrophoresis in parallel with the sample as the indicator of molecular weight, isoelectric point, etc.