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ProductInformation

Prestained Kit for Molecular Weights 27,000-180,000
For SDS-PAGE and Protein Transfer

Product Codes **MWSDSBLUE, SDS7B2, M3398, G6017, L9292, P5788, F0262, L3891, and T9400**
Storage Temperature 2–8 °C

TECHNICAL BULLETIN

Synonym: Prestained SDS Molecular Weight Markers

Product Description

The Prestained Kit for Molecular Weights 27,000-180,000 consists of 7 standard proteins conjugated to a blue dye. After electrophoresis these prestained markers can be transferred from SDS-PAGE gels to solid phase supports such as nitrocellulose, nylon, or polyvinylidene difluoride (PVDF), thus providing a visual check of transfer efficiency. In addition, it is possible to visually monitor the migration of proteins while electrophoresis is in progress.

The electrophoretic mobilities of these marker proteins, compared to the native proteins, are altered by the attachment of dye. Lot-specific apparent molecular weights of the prestained markers are determined using SigmaMarker™ Wide Molecular Weight Range (Product Code S8445), and printed on the label of each vial. They are to be used for generalized approximation of molecular weights. For precise molecular weight determinations on Western blots, Biotinylated SDS Molecular Weight Standard Mixture (Product Code B2787) is recommended.

Components

Each vial contains enough prestained protein for 80 uses on standard size gels or 160 uses on minigels.

Product Code	Prestained Protein	Native* Mol. Wt. (subunit)
M3398	α_2-Macroglobulin from human blood plasma	180,000
G6017	β-Galactosidase from *E. coli*	116,000
L9292	Lactoferrin from human milk	90,000
P5788	Pyruvate Kinase from chicken muscle	58,000
F0262	Fumarase from porcine heart	48,500
L3891	Lactic Dehydrogenase from rabbit muscle	36,500
T9400	Triosephosphate Isomerase from rabbit muscle	26,600
SDS7B2	Prestained SDS Molecular Weight Standard Mixture	

*The protein-dye conjugates migrate differently than the native proteins. Molecular weights of the prestained proteins are standardized using SigmaMarker (Product Code S8445) on a 4–20% Laemmli gel.[1] The apparent molecular weight of each prestained protein is indicated on the label of each vial.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Store vials at 2–8 °C. After reconstitution with sample buffer, store the markers at –20 °C or below.

Preparation Instructions

Preparation of Reagent Solutions (For SDS-PAGE (Laemmli) system only)

- 8 M Urea Solution

  Combine: Urea (Product Code U6504) 24.0 g
  Deionized water 25 ml

  Note: Warming to 37 °C may be required to completely dissolve. Bring final volume to 50 ml with deionized water and filter through filter paper.

- Sample Buffer, 2x Laemmli - (Product Code S3401, 0.125 M Trizma-HCl, pH 6.8, containing 4% SDS, 20% glycerol, 10% 2-mercaptoethanol, and 0.004% bromophenol blue)

  This buffer may also be prepared by the following:

  Combine: Trizma Base (Product Code T6066) 1.51 g
  Glycerol (Product Code G8773) 20 ml
  Deionized water 25 ml

  Adjust pH to 6.8 with concentrated HCl and then add:

  Sodium Dodecyl Sulfate (SDS, Product Code L3771) 4 g
  2-Mercaptoethanol (Product Code M7154) 10 ml
  Bromophenol Blue (Product Code B0126) 0.004 g

  Bring to a final volume of 100 ml with deionized water, filter, and store at –20 °C or below in ~1 ml aliquots.

Preparation of Prestained Protein Marker Mixture (SDS-7B2) and Individual Prestained Markers (M3398, G6017, L9292, P5788, F0262, L3891, and T9400)

Preparation of Markers - Dissolve contents of each vial in 0.5 ml of 8 M Urea Solution. Then add 0.5 ml of Sample Buffer, 2x Laemmli. Vortex until homogeneous. Aliquot and freeze at –20 °C or below.

Procedure

Incubate the aliquot in a boiling water bath for 1-2 minutes immediately before application of markers to gel.

Apply 10 µl/well for a standard size gel (16 x 14 cm).
Apply 5 µl/well for a minigel (10 x 10 cm).

References

1. Laemmli, U.K., Nature, **227**, 680 (1970).

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