Blocker™ Casein

Catalog Numbers 37528, 37532, 37582, 37583

Doc. Part No. 2160553 Pub. No. MAN0011286 Rev. C.0

WARNING! Read the Safety Data Sheets (SDSs) and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves. Safety Data Sheets (SDSs) are available from thermofisher.com/support.

Product description

Thermo Scientific™ Blocker™ Casein is a milk protein purified by the Hammarsten method and used for blocking excess binding sites in ELISA, western blotting, immunohistochemistry, and other immunochemical applications. Blocker™ Casein is formulated in either phosphate-buffered saline (PBS) or Tris-buffer saline (TBS) with 1% (w/v) casein. The single purified protein provides fewer chances of cross-reaction with assay components than serum- or milk-based blocking buffers. Blocker™ Casein is a good alternative when high background or antigen-antibody masking is seen with nonfat milk blockers.

Contents and storage

Product	Cat. No.	Amount	Storage
Blocker™ Casein in PBS, 1% (w/v) casein (Hammarsten grade) in 100 mM sodium phosphate, 150 mM NaCl, pH 7.4[1]	37582	100 mL	4°C
Blocker™ Casein in PBS, 1% (w/v) casein (Hammarsten grade) in 100 mM sodium phosphate, 150 mM NaCl, pH 7.4[1]	37528	1 L	
Blocker™ Casein in TBS, 1% (w/v) casein (Hammarsten grade) in 25mM Tris, 150mM NaCl, pH 7.4[1]	37583	100 mL	
Blocker™ Casein in TBS, 1% (w/v) casein (Hammarsten grade) in 25mM Tris, 150mM NaCl, pH 7.4[1]	37532	1 L	

[1] Containing Kathon™ Antimicrobial Agent

Procedural guidelines

- Milk protein-based products may contain biotin that interferes with streptavidin and avidin systems. When using streptavidin and avidin enzyme conjugates, use Thermo Scientific™ Blocker™ BSA (Cat. No. 37520 and 37525) or Thermo Scientific™ StartingBlock™ Blocking Buffer (Cat. No. 37538 and 37542), which do not contain endogenous biotin.
- Empirical testing is essential to determine the appropriate blocking reagent for your system. The proper blocking reagent can increase sensitivity and prevent non-specific signals caused by cross-reactivity between the antibody and the blocking reagent.
- Use Blocker™ Casein as supplied for initial testing. However, other concentrations may be beneficial for specific systems.
- A final concentration of 0.05% Tween™-20 Detergent added to the Blocker™ Casein can improve blocking performance; however, it is not required nor recommended for all systems. Use only high-quality products such as Thermo Scientific™ Surfact-Amps™ 20 (Cat. No. 28320), which is a specially purified Tween™-20 Detergent free of peroxides and carbonyls that may interfere in some systems.
- Blocker™ Casein diluted to 0.05% and containing 0.05% Tween™-20 Detergent, can be used as a diluent for antibodies to improve signal-to-noise ratios.

Block western blots

1. After the protein transfer, remove the membrane from the transfer apparatus, then wash in deionized water for 5 minutes, using agitation to remove all transfer buffer.
2. Add sufficient Blocker™ Casein to cover the membrane.
3. Incubate for 30 minutes to 2 hours at room temperature with shaking.
4. Continue with the western blotting procedure that is appropriate for your downstream detection.

Block ELISA plates

1. Coat the ELISA plate with antigen or antibody.
2. Add 300 µL of Blocker™ Casein to each well, then incubate the plate for 30 minutes to 2 hours at room temperature or 37°C.
3. Empty plate by aspiration or inversion.
4. Proceed with the ELISA protocol that is appropriate for your downstream detection.

Note: For best results when drying antigen- or antibody-coated microplates, use a protein stabilizer. Single protein blocking solutions such as Blocker™ BSA (Cat. No. 37520) or SuperBlock™ Blocking Buffer (Cat. No. 37515) are ideal for this application.

Related products

Table 1 Blocking buffers for western blotting

Select when	Product	Blocking agent	Highlights	Available formats
Optimizing a new western blot system or high background with current blocking buffer	**StartingBlock™ Blocking Buffer**	Serum- and biotin-free, single purified protein	• Performs well with a wide range of antibodies and antibody combinations • Compatible with streptavidin systems • Blocks in less than 15 minutes	PBS TBS PBST TBST
Use when high background or antigen-antibody masking occurring with non-fat milk blockers	**Blocker™ Casein**	Purified casein	• Single purified protein blocking buffer provides fewer chances of cross-reaction with assay components than serum or milk solutions	PBS TBS
Fluorescent western blotting	**Blocker™ FL Fluorescent Blocking Buffer**	Single purified protein	• Blocks excess nonspecific sites to help reduce background fluorescence • Detergent-free • Blocks in 15-30 minutes	10X concentrate

Table 2 Additional products

Products	Learn more
Western blotting reagents and accessories	thermofisher.com/westernblot
Western blot imaging and analysis	thermofisher.com/westernimaging
ELISA reagents and kits	thermofisher.com/ELISA
ELISA plate readers	thermofisher.com/microplatereaders

Limited product warranty

Life Technologies Corporation and/or its affiliate(s) warrant their products as set forth in the Life Technologies' General Terms and Conditions of Sale at **www.thermofisher.com/us/en/home/global/terms-and-conditions.html**. If you have any questions, please contact Life Technologies at **www.thermofisher.com/support**.

Thermo Fisher Scientific | 3747 N. Meridian Road | Rockford, Illinois 61101 USA
For descriptions of symbols on product labels or product documents, go to thermofisher.com/symbols-definition.

The information in this guide is subject to change without notice.

DISCLAIMER: TO THE EXTENT ALLOWED BY LAW, THERMO FISHER SCIENTIFIC INC. AND/OR ITS AFFILIATE(S) WILL NOT BE LIABLE FOR SPECIAL, INCIDENTAL, INDIRECT, PUNITIVE, MULTIPLE, OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH OR ARISING FROM THIS DOCUMENT, INCLUDING YOUR USE OF IT.

Revision history: Pub. No. MAN0011286

Revision	Date	Description
C.0	17 September 2021	Updated format.
B.0	5 January 2018	Updated content
A.0	17 October 2015	New document

Important Licensing Information: These products may be covered by one or more Limited Use Label Licenses. By use of these products, you accept the terms and conditions of all applicable Limited Use Label Licenses.