

Blocker Sample Pack

Cat. No. **BL-PK01**

STORE AT -30°C TO -10°C

OVERVIEW | The **Blocker Sample Pack** (BL-PK01) provides a comprehensive selection of passive and active blockers for evaluation in your immunoassay formats. This kit is designed to help identify the optimal blocker for minimizing assay interference caused by heterophilic antibodies, including HAMA and rheumatoid factors.

PRODUCT NAME	CAT. NO.	VOLUME	PROTEIN CONC.	BLOCKER TYPE	APPLICATIONS*
Mouse Serum (Heat-Inactiv.)	88131	25 mL	>5.5 g/dL	Passive	ELISA, LFA
Mouse IgG	A66185M	1 mL	50–55 mg/mL	Passive	ELISA, CLIA
TRU Block™	A66800H				ELISA, CLIA
TRU Block™ 2	A66802H	1 mL	24–26 mg/mL	Universal (Active + Passive)	ELISA, CLIA, LFA
TRU Block™ 3	A66803H				ELISA, CLIA
K-BLOCK™ (Recombinant)	BN1200	5 mL	5–7 mg/mL	Active	ELISA, CLIA, LFA

*Other applications may also be suitable depending on assay format and optimization.

PRODUCT DESCRIPTIONS

Heat-Inactivated Mouse Serum

A broadly compatible passive blocker. Gently processed to inactivate complement proteins while preserving native mouse IgG. This IgG competes with assay components for binding to heterophilic antibodies, reducing false signal without altering assay kinetics. Each vial contains a minimum of 25 mL, typically used at 5-20% (v/v) in sample or conjugate diluent—corresponding to 0.5-2 mg/mL IgG concentration.

K-BLOCK™ (Recombinant)

A recombinant, animal-free active blocker engineered to neutralize both HAMA and RF interference without introducing animal-derived components. Its defined, non-animal composition makes it ideal for sustainability initiatives. Each vial contains approximately 25 mg of active blocker, typically used at concentrations ranging from 0.2-200 µg/mL. K-BLOCK™ provides a robust and reproducible interference suppression in immuno-assays requiring animal-free reagents.

Mouse IgG

A high-purity passive blocker (≥95%) that offers a serum-free alternative for HAMA interference suppression. Affinity-purified to remove extraneous proteins and reduce viscosity, mouse IgG provides a cleaner blocking matrix ideal for sensitive or high-throughput systems. Each vial contains approx. 50 mg of purified mouse IgG, used at typical concentrations of 0.1-2.0 mg/mL.

TRU Block™ Series

A versatile blocker with both passive and active blocking components. TRU Block™ is designed for robust neutralization of both HAMA and RF interference. Each TRU Block™ variant is optimized for a different level of RF:

- TRU Block™ targets high RF interference
- TRU Block™ 2 is suited for moderate RF levels
- TRU Block™ 3 addresses low RF concentrations

Each vial contains approximately 25 mg of blocker, effective at low working concentrations (0.2-200 µg/mL). The TRU Block™ Series offers tailored solutions for complex sample matrices where multiple types of heterophilic antibodies are present.

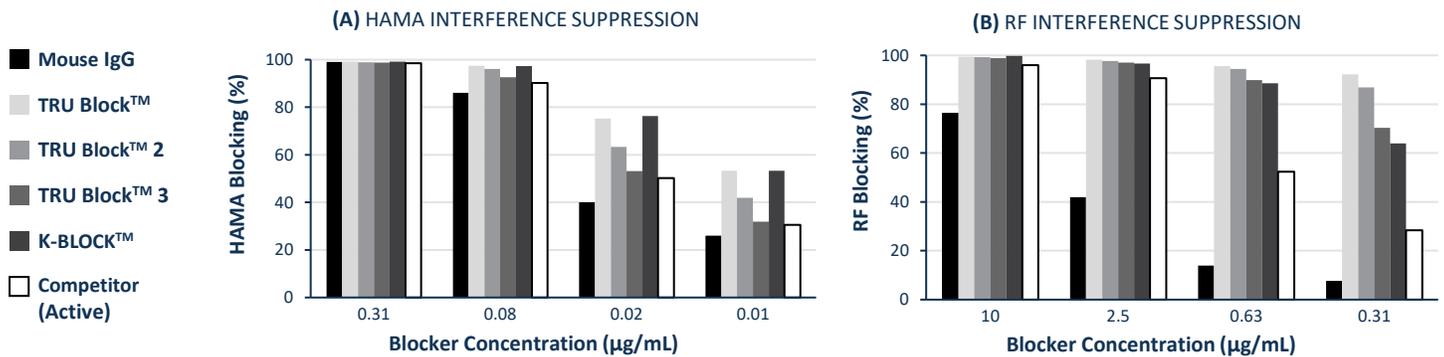


Figure 1 | Percentage of (A) HAMA interference and (B) RF interference blocked by Mouse IgG, each of the TRU Block™ Series, K-BLOCK™, and the leading competitor active blocker, at various concentrations of blocker. Higher blocking % indicates better blocking performance. TRU Block™ and K-BLOCK™ outperform the leading competitor at the lower concentrations in (A), and at all concentrations in (B).

GENERAL INSTRUCTIONS FOR USE

INTRODUCTION | Patient samples like serum and plasma contain heterophilic antibodies (HA) that can interfere with immunoassays and cause false results. These include human antibodies that react with animal-derived antibodies such as mouse (HAMA), goat (HAGA), or autoantibodies like rheumatoid factor (RF).

Meridian's **Blocker Sample Pack** eliminates heterophilic interference (HAMA, RF) using both passive and active blocking strategies. Passive blockers—such as purified Mouse IgG and Heat-Inactivated (HI) Mouse Serum—act by saturating non-specific binding sites, thereby preventing HA from interacting with assay capture or detection antibodies. In contrast, our proprietary active blockers, including K-BLOCK™ and TRU Block™ reagents, are engineered to specifically bind HAMA and RF, sterically hindering their access to assay-specific antibodies. TRU Block™ reagents combine active and passive strategies for enhanced suppression of interference.

Considerations for Use

Optimal blocker performance depends on careful selection and assay-specific optimization. Key factors to consider include:

- **Assay type:** Blocking needs may vary across platforms (e.g., ELISA, CLIA, LFA, Western blot).
- **Interference type:** Choose passive, active, or a combination of blockers based on expected interference (e.g., HAMA, RF).
- **Antibody source:** Match blockers to antibody species—e.g., mouse antibodies require HAMA blockers; multi-species antibodies may need multiple blockers.
- **Blocker concentration:** Determine optimal concentration through titration. Insufficient blocker can increase background; excessive levels may reduce sensitivity.
- **Incubation conditions:** Adequate incubation is necessary for effective blocking. Avoid elevated temperatures that may denature blocking proteins.
- **Buffer composition:** Some preservatives or additives may interfere with detection systems. Ensure working concentrations minimize such effects.

Suggested Parameters for Using Meridian Blockers

PRODUCT NAME	CAT. NO.	MIN. AMT. PROVIDED	EFFECTIVE USE CONC.	RECOMMENDED BLOCKING TIME	APPLICATIONS
Mouse Serum (Heat-Inactivated)	88131	25 mL	5-20% of sample or conjugate diluent (v/v)	5-60 min	ELISA, LFA
Mouse IgG	A66185M	50 mg	0.1-2 mg/mL or 10x Ab used		ELISA, CLIA
TRU Block™	A66800H				ELISA, CLIA
TRU Block™ 2	A66802H	25 mg	0.2-200 µg/mL		ELISA, CLIA, LFA
TRU Block™ 3	A66803H				ELISA, CLIA
K-BLOCK™ (Recombinant)	BN1200	25 mg	0.2-200 µg/mL		ELISA, CLIA, LFA

*For lot specific concentration, please refer to the individual Certificate of Analysis (CoA) included in the product package.

Suggested Point of Application

- ELISA: Mix blocker with sample or conjugate diluent
- CLIA: Add to the reaction mix during the assay setup
- Lateral Flow: Add to the conjugate pad, sample diluent, or pre-treatment buffer, or apply directly to the membrane as a blocking stripe located before the test stripe

Example Protocol for Blocker Evaluation by ELISA

1. Coating: Prepare 2.5 µg/mL solution of mouse monoclonal antibody. Add 100 µL/well and incubate overnight at 4°C.
2. Wash: Wash plate twice with 300-400 µL/well of wash buffer.
3. Blocking: Add 300 µL/well of blocking buffer (e.g., BSA, casein). Incubate 1-3 hours at room temperature.
4. Blocker Dilution: Dilute blockers to test various concentrations for HAMA/RF interference. (Reference table above for recommended concentration range.)
5. Titration Setup: In a round-bottom 96-well plate, mix blockers with HAMA- or RF-positive samples. Incubate for 10-20 minutes at room temperature.
6. Apply to Assay Plate: Wash plate again 2x with 300-400 µL/well of wash buffer. Transfer 100 µL of blocker/plasma mixture to each well. Incubate 60-90 minutes at room temperature.
7. Detection:
 - Wash 4-5 times with 300-400 µL/well of wash buffer.
 - Prepare and add diluted HRP-labeled antibody. Incubate for 60 minutes at room temperature.
 - Wash 4-5 times with 300-400 µL/well of wash buffer.
 - Add 100 µL/well of TMB substrate. Incubate up to 30 minutes at room temperature.
 - Stop reaction with 50 µL/well of 3N H₂SO₄.
 - Read plate at 450 nm within 30 minutes of stopping the reaction.

For additional technical support or questions please contact the Meridian Team at: info@meridianlifescience.com

For technical specifications for each product, please refer to the Sample Pack CoA:
meridianbioscience.com/product-documents

For complete details about our blockers, please refer to our comprehensive Blocker Brochure:
collateral.meridianlifescience.com/view/537560556