

Anti-Human MICA Monoclonal Antibody AMO1

Antigen: Human MICA (MHC-class I-related chain A)

Clone: AMO1, mouse IgG1

Catalog Number: AMO1-50

Specificity: binds: MICA*01, MICA*04, MICA*07, MICA*08

binds not: MICB*02

blocks: NKG2D binding to MICA

Epitope: in $\alpha 1 \alpha 2$ superdomain of MICA

independent of glycosylation

Applications: Flow cytometry, ELISA

Size: 50 μg, 1.0 mg/ml, in 0.05 ml phosphate-buffered saline, pH 7.4 with 0.05%

sodium azide (Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially

explosive deposits in plumbing).

Usage: Since applications may vary, the reagent should be titrated to obtain optimal

results. In general, for flow cytometry we recommend to use 10µg mAb/ml and

for ELISA 1-10 µg mAb/ml.

Purification: Protein A affinity chromatography

Storage: Store at 4°C. For long-term storage freezing at -80°C is recommended.

Description: MICA (MHC class I-related chain A) is a polymorphic, human MHC-encoded

cell surface glycoprotein and ligand of the activating C-type lectin-like immunoreceptor NKG2D [1-5]. NKG2D engagement of MICA activates NK cells and costimulates CD8 T cells [3,6]. MICA is expressed on gastrointestinal epithelium and inducible by cell stress, viral and bacterial infection [2,6-8]. MICA is also expressed by malignant epithelial and haematopoietic cells, and MICA expression has been shown to enhance tumor rejection in vivo [9-12]. Tumor cells shed soluble MICA which is detectable in sera of patients with epithelial and haematopoietic malignancies and may counteract tumor

immunosurveillance [10,12-14].

Conditions: For research use only. Not for use in diagnostic or therapeutic

procedures. BAMOMAB is not responsible for any patent infringements

caused by the use of this product.

Country of Origin: Germany

Literature: 1. Bahram S et al. Proc Natl Acad Sci USA 91, 6259-6263 (1994).

2. Groh V et al. Proc Natl Acad Sci USA 93, 12445-12450 (1996).

3. Bauer S et al. Science 285, 727-729 (1999).

4. Steinle A et al. Immunogenetics 53, 279-287 (2001).

5. Li P et al. Nat Immunol 2, 443-451 (2001).

6. Groh V et al. Nat Immunol 2, 255-260 (2001).

7. Spies T *Proc Natl Acad Sci USA* **99**, 2584-2586 (2002).

8. Welte S et al. Eur J Immunol 33, 194-203 (2003).

9. Groh V et al. *Proc Natl Acad Sci USA* **96**, 6879-6884 (1999).

10. Salih HR et al. Blood 102, 1389-1396 (2003).

11. Friese MA et al. Cancer Res **63**, 8996-9006 (2003).

12. Wiemann K et al. J Immunol 175, 720-729 (2005).

13. Salih HR et al. *J Immunol* **169**, 4098-4102 (2002).

14. Groh V et al. Nature 419, 734-738 (2002).

Human B cell line C1R transfected with vector (light grey), MICA*01 (black), or MICA*04 (dark grey), was stained with

AMO1 and anti-mouse Ig-PE conjugate.



Anti-Human MICB Monoclonal Antibody BMO2

Antigen: Human MICB (MHC class I-related chain B)

Clone: BMO2, mouse IgG2a

Catalog Number: BMO2-50

Specificity: binds: MICB*02

binds not: MICA*01, MICA*04 blocks: NKG2D binding to MICB

Epitope: in α 2 domain of MICB (ref. 14)

Applications: Flow cytometry, ELISA

Size: 50 μg, 1.0 mg/ml, in 0.05 ml phosphate-buffered saline, pH 7.4 with 0.05%

sodium azide (Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially

explosive deposits in plumbing).

Usage: Since applications may vary, the reagent should be titrated to obtain optimal

results. In general, for flow cytometry we recommend to use $10\mu g$ mAb/ml and

for ELISA 1-10 µg mAb/ml.

Purification: Protein A affinity chromatography

Storage: Store at 4°C. For long-term storage freezing at -80°C is recommended.

Description: MICA and MICB (MHC class I-related chain A) are polymorphic, human MHC-

encoded cell surface glycoproteins and ligands of the activating C-type lectin-like immunoreceptor NKG2D [1-5]. NKG2D engagement of MICA/B activates NK cells and costimulates CD8 T cells [3,6]. MICB like MICA is inducible by cell stress, viral and bacterial infection [6-8]. MICA and MICB are also expressed by malignant epithelial and haematopoietic cells [9, 10]. Tumor cells shed soluble MICA and MICB which are detectable in sera of patients with epithelial and haematopoietic malignancies and may counteract tumor immunosurveillance [10-13]. HCMV-encoded UL16 glykoprotein retains MICB

intracellularly [8,14].

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Country of Origin: Germany

Literature: 1. Bahram S et al. *Proc Natl Acad Sci USA* **91**, 6259-6263 (1994).

2. Groh V et al. Proc Natl Acad Sci USA 93, 12445-12450 (1996).

3. Bauer S et al. Science 285, 727-729 (1999).

4. Steinle A et al. Immunogenetics 53, 279-287 (2001).

5. Li P et al. Nat Immunol 2, 443-451 (2001).

6. Groh V et al. Nat Immunol 2, 255-260 (2001).

7. Spies T Proc Natl Acad Sci USA 99, 2584-2586 (2002).

B. Welte S et al. Eur J Immunol 33, 194-203 (2003).

9. Groh V et al. Proc Natl Acad Sci USA 96, 6879-6884 (1999).

10. Salih HR et al. *Blood* **102**, 1389-1396 (2003).

11. Salih HR et al. J Immunol 169, 4098-4102 (2002).

12. Groh V et al. *Nature* **419**, 734-738 (2002).

13. Salih HR et al. Hum Immunol 67, 188-195 (2006).

14. Spreu J et al. *J Immunol* **177**, 3143-3149 (2006).

Human B cell line C1R transfected with vector (light grey), MICA*01 (dark grey), or MICB*02 (black), was stained with BMO2 anti-anti-mouse Ig-PE conjugate.



Anti-Human MICA/B Monoclonal Antibody BAMO1

Antigen: Human MICA and MICB

Clone: BAMO1, mouse IgG1

Catalog Number: BAMO1-50

Applications:

Specificity: binds: MICA*01, MICA*04, MICA*07, MICA*08

MICB*02

Epitope: in $\alpha 1\alpha 2$ superdomain of MICA/B

linear epitope independent of glycosylation

Flow cytometry, ELISA, Immunoblot

Size: 50 μg, 1.0 mg/ml, in 0.05 ml phosphate-buffered saline, pH 7.4 with 0.05%

sodium azide (Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially

explosive deposits in plumbing).

Usage: For immunoblotting we recommend a final dilution of 1 μg BAMO1/ml.

In general, for flow cytometry we recommend a final dilution of 10µg mAb/ml

and for ELISA 1-10 µg mAb/ml.

Purification: Protein A affinity chromatography

Storage: Store at 4°C. For long-term storage freezing at -80°C is recommended.

Description: MICA and MICB (MHC class I-related chain A) are polymorphic, human MHC-

encoded cell surface glycoproteins and ligands of the activating C-type lectin-like immunoreceptor NKG2D [1-5]. NKG2D engagement of MICA/B activates NK cells and costimulates CD8 T cells [3,6]. MICA is expressed on gastrointestinal epithelium and inducible by cell stress, viral and bacterial infection [2,6-8]. MICA and MICB are also expressed by malignant epithelial and haematopoietic cells, and MICA expression has been shown to enhance tumor rejection in vivo [9-12]. Tumor cells shed soluble MICA and MICB which are detectable in sera of patients with epithelial and haematopoietic

malignancies and may counteract tumor immunosurveillance [10,12-14].

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2. Groh V et al. Proc Natl Acad Sci USA 93, 12445-12450 (1996).

3. Bauer S et al. Science 285, 727-729 (1999).

4. Steinle A et al. Immunogenetics 53, 279-287 (2001).

5. Li P et al. Nat Immunol 2, 443-451 (2001).

6. Groh V et al. Nat Immunol 2, 255-260 (2001).

7. Spies T *Proc Natl Acad Sci USA* **99**, 2584-2586 (2002).

3. Welte S et al. Eur J Immunol 33, 194-203 (2003).

9. Groh V et al. *Proc Natl Acad Sci USA* **96**, 6879-6884 (1999).

10. Salih HR et al. Blood 102, 1389-1396 (2003).

11. Friese MA et al. *Cancer Res* **63**, 8996-9006 (2003).

12. Wiemann K et al. *J Immunol* 175, 720-729 (2005).

13. Salih HR et al. J Immunol 169, 4098-4102 (2002).

14. Groh V et al. Nature 419, 734-738 (2002).

Human B cell line C1R transfected with vector (light grey), MICA*01 (black), or MICB*02 (dark grey), was stained with

BAMO1 and anti-mouse Ig-PE conjugate.



Anti-Human ULBP1 Monoclonal Antibody AUMO2

Antigen: Human ULBP1 (UL16-binding protein 1)

Clone: AUMO2, mouse IgG2a

Catalog Number: AUMO2-50

Specificity: binds: ULBP1

binds not: ULBP2, ULBP3, ULBP4

Epitope: in ULBP1 ectodomain

Applications: Flow cytometry

Size: 50 μ g, 1.0 mg/ml, in 0.05 ml phosphate-buffered saline, pH 7.4 with 0.05%

sodium azide (Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially

explosive deposits in plumbing).

Usage: In general, for flow cytometry we recommend a final dilution of 10µg mAb/ml

and for ELISA 1-10 µg mAb/ml.

Purification: Protein A affinity chromatography

Storage: Store at 4°C. For long-term storage freezing at -80°C is recommended.

Description: UL16-binding proteins (ULBP) have been discovered in 2001 during a search

for human proteins binding the Human Cytomegalovirus-encoded UL16 glycoprotein [1] and for human homologues of the mouse RAE1 ligands of NKG2D, respectively [2]. ULBP1-4 are cell surface proteins with an MHC class I-like $\alpha 1/\alpha 2$ superdomain that is bound by human NKG2D [1-3]. ULBP1-3 are attached to the cell surface by GPI-anchor [1]. Expression of ULBP1-3 is induced by infection with Human Cytomegalovirus (HCMV) [4]. In vivo expression of ULBP1 is mostly unexplored, except that freshly isolated leukemias have been shown to express ULBP1 [5]. Recent studies document ULBP1 expression on Dendritic Cells and ULBP1 representing a dominating activating NK ligand on mycobacteria-infected macrophages [6,7]. Like other human and mouse NKG2D-ligands, ULBP stimulate tumor immunity in vivo [8].

Conditions: For research use only. Not for use in diagnostic or therapeutic

procedures. BAMOMAB is not responsible for any patent infringements

caused by the use of this product.

Country of Origin: Germany

Literature: 1. Cosman et al. *Immunity* **14**,123-133 (2001).

2. Steinle A et al. Immunogenetics 53, 279-287 (2001).

3. Radaev S et al. Immunity 15,1039-1049 (2001).

4. Welte S et al. *Eur J Immunol* **33**, 194-203 (2003).

5. Salih HR et al. *Blood* **102**, 1389-1396 (2003).

6. Vankayalapati R. et al. *J Immunol* 175:4611-4617 (2005).

7. Schrama D et al. Eur J Immunol 36:65-72 (2006).

8. Sutherland C et al. Blood 108:1313-1319 (2006).

Human cell line 293T stained with AUMO2 (black) or IgG2a isotype (dotted) and anti-

mouse Ig-PE conjugate.



Anti-Human ULBP2 Monoclonal Antibody BUMO1

Antigen: **Human ULBP2 (UL16-binding protein 2)**

Clone: BUMO1, mouse IgG1

Catalog Number: BUMO1-50

Specificity: binds: ULBP2

binds not: ULBP1,ULBP3,ULBP4

Epitope: in ULBP2 ectodomain

Applications: Flow cytometry

Size: 50 µg, 1.0 mg/ml, in 0.05 ml phosphate-buffered saline, pH 7.4 with 0.05%

> sodium azide (Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially

Human cell line 293T stained with BUMO1 (black) or IgG1 isotype (dotted) and goat anti-mouse Ig-PE conjugate.

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explosive deposits in plumbing).

In general, for flow cytometry we recommend a final dilution of 10µg mAb/ml **Usage:**

and for ELISA 1-10 µg mAb/ml.

Purification: Protein A affinity chromatography

Storage: Store at 4°C. For long-term storage freezing at -80°C is recommended.

Description: UL16-binding proteins (ULBP) have been discovered in 2001 during a search

for human proteins binding the Human Cytomegalovirus-encoded UL16 glycoprotein [1] and for human homologues of the mouse RAE1 ligands of NKG2D, respectively [2]. ULBP1-4 are cell surface proteins with an MHC class I-like $\alpha 1/\alpha 2$ superdomain that is bound by human NKG2D [1-3]. ULBP1-3 are attached to the cell surface by GPI-anchor [1]. Expression of ULBP is induced by infection with Human Cytomegalovirus (HCMV) [4]. In vivo expression of ULBP2 is mostly unexplored, except that freshly isolated leukemias have been shown to express ULBP2 [5]. ULBP2 is released from tumor cells by metalloproteases in a manner similar to MIC molecules and can be found in sera of some leukaemia patients [6]. Like other human and mouse NKG2D-

ligands, ULBP stimulate tumor immunity in vivo [7].

Conditions: For research use only. Not for use in diagnostic or therapeutic

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caused by the use of this product.

Country of Origin: Germany

Literature: 1. Cosman et al. Immunity 14,123-133 (2001).

2. Steinle A et al. Immunogenetics 53, 279-287 (2001).

3. Radaev S et al. Immunity 15,1039-1049 (2001).

4. Welte S et al. Eur J Immunol 33, 194-203 (2003).

5. Salih HR et al. Blood 102, 1389-1396 (2003).

6. Waldhauer I et Steinle A. Cancer Res 66, 2520-2526 (2006).

7. Sutherland C et al. Blood 108:1313-1319 (2006).



Anti-Human ULBP3 Monoclonal Antibody CUMO3

Antigen: Human ULBP3 (UL16-binding protein 3)

Clone: CUMO3, mouse IgG1

Catalog Number: CUMO3-50

Specificity: binds: ULBP3

binds not: ULBP1,ULBP2,ULBP4 blocks: NKG2D binding to ULBP3

Epitope: in ULBP3 ectodomain

Applications: Flow cytometry

Size: 50 μg, 1.0 mg/ml, in 0.05 ml phosphate-buffered saline, pH 7.4 with 0.05%

sodium azide (Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially

explosive deposits in plumbing).

Usage: In general, for flow cytometry we recommend a final dilution of 10µg mAb/ml

and for ELISA 1-10 µg mAb/ml.

Purification: Protein A affinity chromatography

Storage: Store at 4°C. For long-term storage freezing at -80°C is recommended.

Description: UL16-binding proteins (ULBP) have been discovered in 2001 during a search

for human proteins binding the Human Cytomegalovirus-encoded UL16 glycoprotein [1] and for human homologues of the mouse RAE1 ligands of NKG2D, respectively [2]. ULBP1-4 are cell surface proteins with an MHC class I-like $\alpha 1/\alpha 2$ superdomain that is bound by human NKG2D [1-3]. ULBP1-3 are attached to the cell surface by GPI-anchor [1]. Expression of ULBP is induced by infection with Human Cytomegalovirus (HCMV) [4]. In contrast to ULBP1 and ULBP2, ULBP3 is not targeted by UL16 [1,4,5]. In vivo expression of ULBP3 is mostly unexplored, except that glioma and some freshly isolated leukemias have been shown to express ULBP3 [6,7]. Like other human and mouse NKG2D-ligands, ULBP stimulate tumor immunity in mice though binding

of mouse NKG2D to ULBP3 could not be demonstrated [8]

Conditions: For research use only. Not for use in diagnostic or therapeutic

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caused by the use of this product.

Country of Origin: Germany

Literature: 1. Cosman et al. *Immunity* 14,123-133 (2001).

2. Steinle A et al. Immunogenetics 53, 279-287 (2001).

3. Radaev S et al. Immunity 15,1039-1049 (2001).

4. Welte S et al. Eur J Immunol 33, 194-203 (2003).

5. Spreu J et al. *J Immunol* 177, 3143-3149 (2006).

6. Eisele G et al. Brain 129, 2416-2425 (2006).

Salih HR et al. Blood 102, 1389-1396 (2003).

8. Sutherland C et al. *Blood* **108**:1313-1319 (2006).

Human cell line 293T stained with CUMO3 (black) or IgG1 isotype (dotted) and goat anti-

mouse Ig-PE conjugate