

ALPHA INTEGRIN BLOCKING & IHC INVESTIGATOR KIT

Cat. No. ECM430

FOR RESEARCH USE ONLY
Not for use in diagnostic procedures

USA & Canada

Phone: +1(800) 437-7500 • Fax: +1 (951) 676-9209 • Europe +44 (0) 23 8026 2233

Australia +61 3 9839 2000 • Germany +49-6192-207300 • ISO Registered Worldwide

www.chemicon.com • custserv@chemicon.com • techserv@chemicon.com

Introduction

Chemicon Investigator Kits for Integrin Research are a cost-effective source of reagents for all investigators involved with this expanding field of study. The Chemicon Alpha Integrin Blocking and Immunohistochemistry Investigator Kit is designed for research on the functional activity and cellular localization of human integrin alpha subunits.

Integrins belong to a large family of cell surface proteins commonly referred to as glycoproteins. Integrins are composed of noncovalently associated α and β subunits which make up heterodimers: the larger termed α chain and the smaller β chain. At least 16 α subunits and 8 β subunits are expressed, which can give rise to 22 different integrins. Integrins are thought to play critical roles in cell migration, differentiation, and survival. There is now considerable evidence that these transmembrane receptors play an important role in the regulation of gene expression and signal transduction. Excellent reviews of integrin structure, function, and ligand specificity may be found in: Hynes, R. 1992. *Cell* **69**:11-25; Kramer, R. 1993. "Integrin Structure and Ligand Specificity in Cell-Matrix Interactions" in Molecular and Cellular Aspects of Basement Membranes. Academic Press.

Chemicon offers the Alpha Integrin Blocking and Immunohistochemistry Investigator Kit for studies of integrin alpha subunits. All kit reagents are also available in larger sizes. The reagents in this kit are not application specific but rather may be used in a variety of procedures, depending upon the needs of the individual investigator.

Kit Components

- α 1 Mouse Monoclonal Antibody** (Part No. MAB1973Z-20) - 1 tube, 20 μ g.
- α 2 Mouse Monoclonal Antibody** (Part No. MAB1950Z-20) - 1 tube, 20 μ g.
- α 3 Mouse Monoclonal Antibody** (Part No. MAB1952Z-20) - 1 tube, 20 μ g.
- α 4 Mouse Monoclonal Antibody** (Part No. MAB16983Z-20) - 1 tube, 20 μ g.
- α 5 Mouse Monoclonal Antibody** (Part No. MAB 1956Z-20) - 1 tube, 20 μ g.
- α 6 Rat Monoclonal Antibody** (Part No. MAB1378-20) - 1 tube, 20 μ g.
- α V Mouse Monoclonal Antibody** (Part No. MAB1953Z-20) - 1 tube, 20 μ g.

Applications

The components of the Alpha Integrin Blocking and Immunohistochemistry Investigator Kit have been confirmed to react in the following applications. Unmarked applications have not been evaluated.

Component	Clone Name	Integrin	ELISA	Blot	IP	IHC (Tissue)	IC (Cells)	FC	Function Blocking
MAB1973Z-20	FB12	α 1	X	X	X	X	X	X	X
MAB 1950Z-20	P1E6	α 2				X	X		X
MAB1952Z-20	P1B5	α 3				X	X		X
MAB16983Z-20	P1H4	α 4	X	X	X	X	X	X	X
MAB1956Z-20	P1D6	α 5		X (dot)		X			X
MAB1378-20	NK1-GoH3	α 6				X		X	X
MAB1953Z-20	P3G8	α V	X		X	X	X	X	X

Storage and Stability:

Store antibodies at -20°C.

*Important Note: Due to the small volumes contained within the kit, we recommend gently tapping the vial on a hard surface or briefly centrifuging the vial in a tabletop centrifuge **before opening** to dislodge any liquid entrapped in the container's cap during shipment.*

Component Detail/Suggested Applications

MOUSE ANTI-HUMAN INTEGRIN $\alpha 1$ I DOMAIN MONOCLONAL ANTIBODY

COMPONENT:	MAB1973Z-20
QUANTITY:	20 μ g <i>Note: This antibody is also available in a larger size: see Chemicon catalog number MAB1973Z.</i>
CONCENTRATION:	1 mg/mL
SPECIFICITY:	Reacts with the I domain (Val ₁₅₁ - Ala ₃₆₄) of human $\alpha 1$ integrin (CD49a) ¹ . Precipitates proteins of M _r 180 kDa, pI 5.9-6.0 (a chain) and M _r 115 kDa, pI 4.5-5.0 (b chain) from human lymphocyte lysates ² .
ISOTYPE:	IgG ₁
CLONE:	FB12
APPLICATIONS:	Immunohistochemistry: 2 μ g/mL, with paraformaldehyde fixation. Immunoblotting: 2 μ g/mL Immunoprecipitation: 1 μ g /mL FACS analysis: 2 μ g/mL ELISA: 0.5 μ g/mL Inhibition of activated human lymphocyte binding to laminin, collagen IV and fibronectin ¹ : 1-5 μ g/mL Optimal working dilutions must be determined by end user.
SPECIES REACTIVITIES:	Human. Does not recognize rat recombinant I domain of integrin $\alpha 1$.
FORMAT:	Purified from ascites by Protein A Sepharose chromatography.
PRESENTATION:	Purified immunoglobulin in 0.02M PBS pH 7.6, 0.25M NaCl.
REFERENCES:	1. Fabbri, M. et al. (1996) <i>Tissue Antigens</i> 47: . 2. Zocchi, M.R. et al. (1991) <i>Electrophoresis</i> 12: 527-535.

MOUSE ANTI-HUMAN INTEGRIN α 2 MONOCLONAL ANTIBODY

COMPONENT:	MAB1950Z-20
QUANTITY:	20 μ g <i>Note: This antibody is also available in a larger size: see Chemicon catalog number MAB1950Z.</i>
CONCENTRATION:	1 mg/mL
SPECIFICITY:	α 2 integrin.
ISOTYPE:	IgG ₁
CLONE NAME:	P1E6
APPLICATIONS:	Suitable for use in attachment inhibition assays using fibroblasts, epithelial cells, endothelial cells, and non-activated platelets on collagen types I, III, IV, VI and laminin. Suitable for immunofluorescence using fresh frozen or paraffin embedded tissue (protease digestion is necessary when using paraffin). For extensive dilution, protein-containing or other stabilizing medium should be used. Final working dilutions must be determined by end user.
FORMAT:	Purified from ascites fluid by protein A chromatography.
PRESENTATION:	Purified immunoglobulin in 0.01 M phosphate buffer, containing no preservatives.
REFERENCES:	1. Wayner, E. A., et al. (1988). <i>J. Cell Biol.</i> , 107:1881. 2. Sanchez-Mateos, P., et al. (1993). <i>J. Immunol.</i> , 151:3817. 3. Sriramaraio, P., et al. (1993). <i>J. Biol. Chem.</i> , 268:22036. 4. Kapron-Bras, C., et al. (1993). <i>J. Biol. Chem.</i> , 368:20701.

MOUSE ANTI-HUMAN INTEGRIN $\alpha 3$ MONOCLONAL ANTIBODY

COMPONENT:	MAB1952Z-20
QUANTITY:	20 μ g <i>Note: This antibody is also available in a larger size: see Chemicon catalog number MAB1952Z.</i>
SPECIFICITY:	Human $\alpha 3$ integrin
ISOTYPE:	IgG ₁
CLONE NAME:	P1B5
APPLICATIONS:	Suitable for use in attachment inhibition assays using fibroblasts, most epithelial cells, activated lymphocytes on laminin, collagen and fibronectin. Immunohistochemistry on human tonsil fresh frozen tissue >1:75 paraffin embedded tissue; protease digestion required: >1:75 Optimal working dilutions must be determined by end user.
FORMAT:	Purified.
PRESENTATION:	Liquid containing no preservatives.
REFERENCES:	1. Wayner, E. A., <i>et al.</i> , <i>J. Cell Biol.</i> 107 :1881 (1988). 2. Wayner, E. A. and Carter, W. G., <i>J. Cell Biol.</i> 105 :1873 (1987). 3. Wayner, E. A., <i>et al.</i> , <i>J. Cell Biol.</i> 121 :1141 (1993).

MOUSE ANTI-HUMAN INTEGRIN α 4 MONOCLONAL ANTIBODY

COMPONENT:	MAB16983Z-20
QUANTITY:	20 μ g <i>Note: This antibody is also available in a larger size: see Chemicon catalog number MAB16983Z.</i>
CONCENTRATION:	1 mg/mL
SPECIFICITY:	The involvement of integrins in vascular proliferation, adhesion, and wound repair and have been well-documented. The integrin family of cell adhesion receptors consists of at least 16 membrane-associated heterodimers, composed of an alpha and beta subunit that associate in a non-covalent manner. The structure and functional diversity of the integrin family are based upon the pairing abilities of the individual alpha and beta subunits Monoclonal antibody MAB16983Z was produced by immunization with human T lymphocytes. The antibody is reactive with integrin α 4 from primate and human species.
ISOTYPE:	IgG ₁
CLONE:	P1H4
APPLICATIONS:	Immunohistochemistry (preferred fixatives are acetone and alcohols) Immunocytochemistry Immunoblotting Immunoprecipitation FACS Analysis ELISA Radioimmunoassay Biological Activity: MAB16983Z-20 inhibits CS-1 and VCAM binding. Optimal working dilutions must be determined by end user.
FORMAT:	Purified immunoglobulin from Protein A Sepharose chromatography.
PRESENTATION:	Liquid in 0.01M PBS pH 7.4, 0.25M NaCl containing no preservatives.

MOUSE ANTI-HUMAN INTEGRIN α 5 MONOCLONAL ANTIBODY

COMPONENT:	MAB1956Z-20
QUANTITY:	20 μ g
	<i>Note: This antibody is also available in a larger size: see Chemicon catalog number MAB1956Z.</i>
SPECIFICITY:	Human α 5 integrin. Reactivity with other species is unknown.
APPLICATIONS:	MAB1956Z-20 is suitable for use in attachment inhibition assays using fibroblasts, endothelial cells, platelets and T & B lymphocytes on fibronectin. MAB1956Z-20 is not reactive with the denatured α 5 subunit. For immunoblotting, a dot blot is suggested as an alternative to western blotting. MAB1956Z works well for immunohistochemical staining.
ISOTYPE:	IgG ₃
CLONE NAME:	P1D6
FORMAT:	Purified immunoglobulin in 0.01M PBS pH 7.6, 0.25M NaCl containing no preservatives.
REFERENCES:	1. Wayner, E.A. et al., <i>J. Cell Biol.</i> 107 :1881 (1988). 2. <i>Cell</i> 60 :849-859 (1990). 3. Wayner, E.A. et al., <i>J. Cell Biol.</i> 121 :1141 (1993)

RAT ANTI-HUMAN INTEGRIN α 6 MONOCLONAL ANTIBODY

COMPONENT:	MAB1378-20
QUANTITY:	20 μ g
	<i>Note: This antibody is also available in a larger size: see Chemicon catalog number MAB1378.</i>
CLONE:	NKI-GoH3
SPECIFICITY:	Directed against the CD49f antigen (α 6 integrin chain, GPIc). CD49f complexes with the CD29-antigen (integrin β1 chain, GPIIa), to form the VLA-6 expressed on human platelets, or with β-4 integrin chain to form the complex which is expressed on various human epithelial cells. MAB1378-20 reacts with platelets, megakaryocytes, T lymphocytes and acute lymphoblastic leukemia cells (α6/β1). In immunohistochemistry it reacts with epithelial cells of a variety of tissues, peripheral nerves, microvascular endothelial cells, placenta cyto- and syncytiotrophoblasts. Platelet VL-6 functions as a laminin receptor and platelet adhesion to laminin mammary tumor cells.
IMMUNOGEN:	BALB/c mouse mammary tumor cells.
ISOTYPE:	IgG _{2a}
MOLECULAR WEIGHT:	30/31, 120 kDa
APPLICATIONS:	Flow Cytometry: 1:10 Immunohistology on frozen tissue sections: 1:25-1:50 Platelet adhesion to laminin is inhibited.
FORMAT:	Purified from culture supernatant by ion exchange chromatography.
PRESENTATION:	In 20 mM Tris with 10 mg/mL BSA and 150 mM NaCl, pH 8.0, with 0.001% merthiolate.

MOUSE ANTI-HUMAN INTEGRIN α V MONOCLONAL ANTIBODY

COMPONENT:	MAB1953Z-20
VOLUME:	20 μ g
CONCENTRATION:	1mg/mL
SPECIFICITY:	Reacts with human α V integrin subunit and with all α V-containing integrin receptors.
IMMUNOGEN:	UCLA P3 lung carcinoma cells
ISOTYPE:	IgG ₁
CLONE NAME:	P3G8
APPLICATIONS:	Immunohistochemistry: $\geq 1:1,000$. For use on acetone or paraformaldehyde fixed tissue Immunocytochemistry: $\geq 1:1,000$. Will react with some lymphoid cell lines (B cells), many carcinoma and melanoma cell lines and osteosarcomas. Functional blocking of human α V integrin. Flow cytometry Immunoprecipitation FACS EIA Optimal working dilutions must be determined by end user.
FORMAT:	Purified in 0.02M PBS, 0.25M NaCl, pH 7.6.
REFERENCE:	<i>J. Biol. Chemistry</i> (1994) 269 :6940.

Warranty

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