# SCIENTIFIC BACKGROUND:

CD24 (Heat-Stable Antigen) is a heavily glycosylated 27 amino acid mucin-like protein that is bound to the plasma membrane by a glycosylphosphatidylinositol (GPI) anchor. CD24 is expressed by a variety of hematopoietic and epithelial cell types. The level of glycosylation is variable and cell type dependent. 1-4 In B cells, CD24 is expressed throughout development but is lost at the plasma cell stage.<sup>5</sup> In the human mammary epithelium, CD24 is specific for luminal mammary epithelial cells where it is expressed at the apical plasma membrane. 6 CD24 function is not well characterized, but preliminary studies indicate that it is a costimulatory molecule for CD4<sup>+</sup> T cells and has a role in lymphocyte development and B-cell apoptosis.<sup>4, 7, 8</sup> The only known ligand for CD24 is P-selectin.9

## SPECIFICITY:

The 32D12 mouse monoclonal antibody recognizes human CD24. Other species have not been tested.

**CLONE:** 32D12

**ISOTYPE:** IgG<sub>1, K</sub> (Mouse)

#### IMMUNOGEN:

This mouse monoclonal antibody was generated using the human pre-B lymphoblastic leukemia cell line Reh.

#### FORMAT:

100 tests of biotin-conjugated antibody in 2 mL phosphate buffered saline (PBS) containing 0.1% (w/v) bovine serum albumin and 0.1% (w/v) sodium azide.

## **STABILITY AND STORAGE:**

Store at 2-8°C. Do not freeze. Product is stable for at least 6 months.

#### APPLICATIONS AND DIRECTIONS FOR USE:

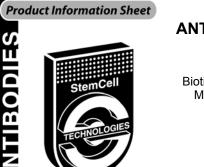
Centrifuge tube briefly before use to ensure recovery of entire contents.

#### Flow Cytometry:

This antibody is suitable for flow cytometry when used at 20 µL of antibody per 1 x 10<sup>6</sup> cells resuspended in 100 µL (for a total volume of 120 µL). Optimal working dilution should be determined for each specific application. For flow cytometric detection, sample must be subsequently stained with a fluorochrome-conjugated reagent, such as, streptavidin-PE (e.g. Molecular Probes Catalog #S866), according to the manufacturer's specific instructions.

#### Cell Separation:

Anti-CD24 biotin labeled cells can also be used for cell separation in conjunction with EasySep® Biotin Selection Kit for human cells (Catalog #18553). The optimal working dilution of anti-CD24 biotin should be determined for the specific application.





# ANTI-HUMAN CD24 BIOTIN

Biotin-Conjugated Mouse Monoclonal Antibody

Clone 32D12

Catalog #10231 100 tests

#### REFERENCES:

- Kay R, Rosten PM, Humphries RK: CD24, a signal transducer modulating B cell activation responses, is a very short peptide with a glycosyl phosphatidylinositol membrane anchor. J Immunol 147: 1412-1416, 1991
- CD24. In: The Leukocyte Antigen Facts Book. Barclay AN, Brown MH, Law SKA, McKnight AJ, Tomlinson MG van der Merwe PA (Eds.) Academic Press Inc., San Diego, USA, pp 192-193, 1997
- CD24. In: Leukocyte Typing VII. Mason D et al (Eds.), Oxford University Press, Oxford UK, pp 769-770, 2002
- Kristiansen G, Sammer M, Altevogt P: Tumour biological aspects of CD24, a mucin-like adhesion molecule. J Mol Histol 35: 255-62, 2004
- Hardy RR, Carmack CE, Shinton SA, Kemp JD, Hayakawa K: Resolution and characterization of pro-B and pre-pro-B cell stages in normal mouse bone marrow. J Exp Med 173: 1213-25,
- Jones C, Mackay A, Grigoriadis A, Cossu A, Reis-Filho JS, Fulford L, Dexter T, Davies S, Bulmer K, Ford E, Parry S, Budroni M, Palmieri G, Neville AM, O'Hare MJ, Lakhani SR: Expression profiling of purified normal human luminal and myoepithelial breast cells: identification of novel prognostic markers for breast cancer. Cancer Res 64, 3037-45, 2004
- Lui Y, Jones B, Aruffo A, Sullivan KM, Linsley PS, Janeway CA: Heat-stable antigen is a costimulatory molecule for CD4 T cell growth. J Exp Med 175: 437-45, 1992
- Chappel MS, Hough MR, Mittel A, Takei F, Kay R, Humphries RK: Cross-linking the murine heat-stable antigen induces apoptosis in B cell precursors and suppresses the anti-CD40induced proliferation of mature resting B lymphocytes. J Exp Med 184: 1638-49, 1996
- Sammar M, Aigner S, Hubbe M, Schirrmacher V, Schachner M, Vestweber D, Altevogt P: Heat-stable antigen (CD24) as ligand for mouse

P-selectin. Int Immunol 6: 1027-36, 1994

Refer to Material Safety Data Sheet for more information.

#### THIS REAGENT IS FOR RESEARCH ONLY. IT IS NOT TO BE ADMINISTERED TO HUMANS.

Hazardous Ingredient: Sodium Azide. Avoid exposure to skin and eyes, ingestion, and contact with heat, acids and metals. Wash exposed skin with soap and water. Flush eyes with water. Dilute with running water before discharging into plumbing.

# StemCell Technologies

In North America Tel: 1.604.877.0713 Fax: 1 604 877 0704 Toll Free Tel: 1.800.667.0322 Toll Free Fax: 1.800.567.2899 e-mail: info@stemcell.com

www.stemcell.com

In the United Kingdom Tel: +44.(0).20.7537.7565 Fax: +44.(0).20.7515.5408 Toll Free within United Kingdom: Tel: 0800.731.27.14 Fax: 0800.731.27.13 e-mail: info@stemcellgb.com

In Europe Tel: +33.(0).4.76.04.75.30 Fax: +33.(0).4.76.18.99.63 e-mail: info@stemcellfrance.com

Revised: February 2007

