

## Technical Data Sheet

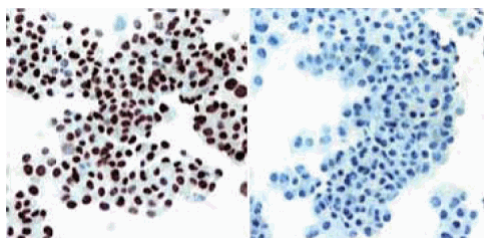
## Biotin Mouse Anti-SV40 Large T and Small t Antigens

## Product Information

<b>Material Number:</b>	554151
<b>Size:</b>	0.1 mg
<b>Concentration:</b>	0.5 mg/ml
<b>Clone:</b>	PAb 108
<b>Immunogen:</b>	SV40-transformed BALB/c mouse cells
<b>Isotype:</b>	Mouse IgG2a
<b>Reactivity:</b>	QC Testing: Viral-transformed cells
<b>Target MW:</b>	90-100 kDa
<b>Storage Buffer:</b>	Aqueous buffered solution containing ≤0.09% sodium azide.

## Description

Simian virus 40 (SV40) is a small DNA virus encoded by 5.2 kb of double-stranded DNA. SV40 large T-antigen (T-ag) is a multifunctional ~85 kDa phosphoprotein, which is the sole viral protein required for SV40 replication. All other factors are provided by the infected host cell. In addition to its role in SV40 DNA replication, T-ag also causes transformation of susceptible cell lines. Studies of various mutant T-ag proteins have shown that the replication and transformation fractions of T-ag can be separated. The multifunctional nature of this protein has resulted in its use as a model system in a wide variety of disciplines. T-ag exercises negative regulation on the transcription of SV40 early mRNA by feedback inhibition and exerts positive regulation on transcription from the late promoter. In addition to transcriptional regulation, T-ag is involved in viral DNA replication. Specific biochemical functions required for DNA synthesis that are inherent to the T-ag include high-affinity binding to sites within the viral origin of DNA synthesis, ATPase, and helicase activities. Other functions attributed to T-ag include cellular transformation, induction of cellular DNA synthesis, induction of rRNA synthesis, and provision of a host-range function for viral replication. However, functions of T-ag are influenced by a wide range of post-translational modifications including phosphorylation, glycosylation, acetylation, acylation, and adenylation. T-ag exists in monomeric as well as polymeric forms, and associates with the tumor suppressor proteins p53 and retinoblastoma protein (Rb). Most of T-ag is transported to the nucleus, while a small fraction is localized at the cell surface. Small t-Ag is a polypeptide which shares 82 N-terminal amino acids with large T antigen and has a unique C-terminal region. Clone PAb 108 recognizes an N-terminal epitope within the first 82 amino acids of T-ag and small t antigen (t-ag). B4 SV40-transformed BALB/c mouse fibroblasts were used as immunogen. PAb 108 was originally produced and characterized as part of a panel of antibodies designated PAb 102-117.



**Immunohistochemical staining of SV40 large T, small t antigen.** Cytospins of SV40 transformed COS-7 cells were acetone fixed and stained with mouse anti-SV40 large T, small t antigen (Cat.No. 554151) (left panel) or with an isotype control (right panel). SV40 T-ag staining is localized to the nucleus of the cells.

## Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

The antibody was conjugated with biotin under optimum conditions, and unreacted biotin was removed.

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

## Application Notes

## Application

Immunofluorescence	Routinely Tested
Immunohistochemistry	Tested During Development
Immunoprecipitation	Tested During Development
Western blot	Tested During Development
Immunocytochemistry (cytospins)	Tested During Development

## Recommended Assay Procedure:

By SDS-PAGE, T-ag migrates at 90-100 kDa and t-ag at 15-20 kDa. COS-7 monkey kidney cells (ATCC CRL-1651), other established SV40-transformed cell lines, SV40-virus infected cells, or cells transfected with SV40 DNA should be used as a positive control.

## BD Biosciences

bdbiosciences.com

United States	Canada	Europe	Japan	Asia Pacific	Latin America/Caribbean
877.232.8995	888.259.0187	32.53.720.550	0120.8555.90	65.6861.0633	55.11.5185.9995

For country-specific contact information, visit [bdbiosciences.com/how\\_to\\_order/](http://bdbiosciences.com/how_to_order/)

Conditions: The information disclosed herein is not to be construed as a recommendation to use the above product in violation of any patents. BD Biosciences will not be held responsible for patent infringement or other violations that may occur with the use of our products. Purchase does not include or carry any right to resell or transfer this product either as a stand-alone product or as a component of another product. Any use of this product other than the permitted use without the express written authorization of Becton Dickinson and Company is strictly prohibited.

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Not for resale.

BD, BD Logo and all other trademarks are the property of Becton, Dickinson and Company. ©2008 BD



## Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to [www.bdbiosciences.com/pharmingen/protocols](http://www.bdbiosciences.com/pharmingen/protocols) for technical protocols.
3. 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.

## References

- Gurney EG, Tamowski S, Deppert W. Antigenic binding sites of monoclonal antibodies specific for simian virus 40 large T antigen. *J Virol.* 1986; 57(3):1168-1172. (Immunogen: Immunofluorescence, Immunoprecipitation, Western blot)
- Hinzpeter M, Fanning E, Deppert W. A new sensitive target-bound DNA binding assay for SV40 large T antigen. *Virology.* 1986; 148(1):159-167. (Clone-specific: Immunohistochemistry, Immunoprecipitation)
- Mellor A, Smith AE. Characterization of the amino-terminal tryptic peptide of simian virus 40 small-t and large-T antigens. *J Virol.* 1978; 28(3):992-996. (Biology)