

BACKGROUND

The S100 family comprises 16 closely related members. S100 proteins consist of two Ca^{2+} -binding EF-hands and short individual N and C termini. The first EF-hand is conserved among the S100 family and the second EF-hand follows the canonical consensus. Almost all S100 proteins form stable homo- or heterodimers and several members have been shown to bind Zn^{2+} in addition to Ca^{2+} *in vitro*.¹

Calcyclin, also called S100A6, is a member of the S100 family of calcium binding proteins and it also binds to Zn^{2+} . Its gene was discovered on the basis of its cell cycle-dependent expression. This gene is expressed at its maximal level during the transition between G_0 to S phase of the cell cycle. Later Calcyclin was found to be expressed at high levels in fibroblasts and epithelial cells, in cells with high proliferating activity, and those undergoing differentiation. Moreover, its expression is deregulated in several tumors.² Overexpression of S100A6 correlates with the metastatic behavior in nude mice and an up-regulated expression has also been observed in wound healing after corneal injury. To elucidate the function(s) of S100A6 recent efforts focused on the identification of cellular binding partners and the metal-binding characteristics. Several possible protein targets of Calcyclin have been identified. Calcyclin has been shown to interact *in vitro* in a Ca^{2+} -dependent manner with glyceraldehyde-3-phosphate dehydrogenase, annexin II, annexin VI, annexin XI, caldesmon, and CacyBP (Calcyclin-binding protein).³

References:

1. Zimmer, D.B. et al: *Microsc. Res. Tech.* 60:552-9, 2003
2. Rehman, I. et al: *Br. J. Cancer*91:739-44, 2004
3. Nowotny, M. et al: *J. Biol. Chem.* 275:31178-82, 2000

TECHNICAL INFORMATION

Source:

Calcyclin Antibody is a mouse monoclonal antibody raised against purified recombinant human Calcyclin protein fragments expressed in *E. coli*.

Specificity and Sensitivity:

This antibody detects endogenous Calcyclin proteins in normal cell lysates without cross-reactivity with other family members.

Storage Buffer: PBS and 30% glycerol

Storage:

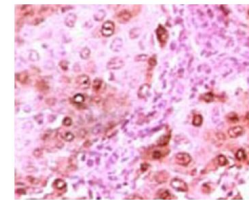
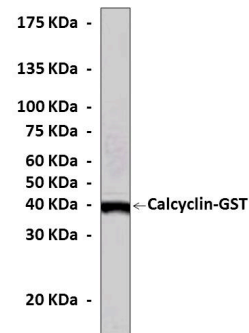
Store at -20°C for at least one year. Store at 4°C for frequent use. Avoid repeated freeze-thaw cycles.

APPLICATIONS

Application:	*Dilution:
WB	1:1,000
IP	1:25-50
IHC	1:100-250
ICC	n/d
FACS	n/d

*Optimal dilutions must be determined by end user.

QUALITY CONTROL DATA



Top: Western Blot detection of Calcyclin proteins in bacterial lysate containing recombinant GST_Calcyclin fusion protein (39kDa) using Calcyclin Antibody.

Bottom: This antibody stains paraffin-embedded human brain glioma tissue in immunohistochemical analysis.

