

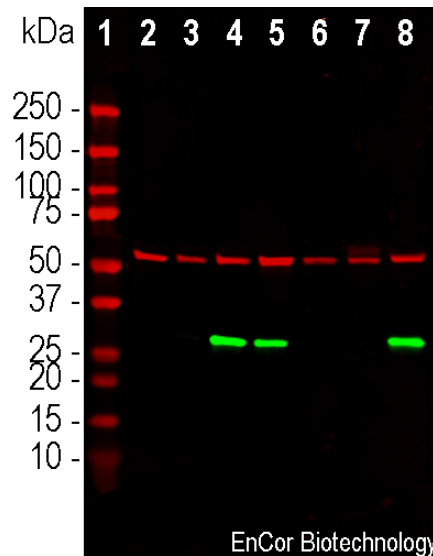
Ordering Information
 Web www.encorbio.com
 Email admin@encorbio.com
 Phone 352-372-7022
 Fax 352-372-7066

HGNC Name: ANXA5
UniProt: P08758
RRID: AB_2861177
Immunogen: Full length human recombinant annexin A5 expressed in and purified from *E. coli*.
Format: Purified antibody at 1mg/mL in 50% PBS, 50% glycerol plus 5mM NaN₃
Storage: Store at 4°C for short term, for longer term at -20°C.
Recommended dilutions:
 WB: 1:2,000-1:5,000. ICC/IF: 1:1,000-2,000 IHC: 1:1,000.

References:

- Gerke V, and Moss SE. Annexins: from structure to function. *Physiol Revs* 82:331-71 (2002).
- Barton GJ, et al. Amino acid sequence analysis of the annexin super-gene family of proteins. *Eur J Biochem* 198:749-60 (1991).
- Geisow MJ, et al. A consensus amino-acid sequence repeat in *Torpedo* and mammalian Ca²⁺-dependent membrane-binding proteins. *Nature* 320:636-8 (1986).
- Koopman G, et al. Annexin V for Flow Cytometric Detection of Phosphatidylserine Expression on B Cells Undergoing Apoptosis. *Blood* 84:1415-1420 (1984).

Applications	Host	Isotype	Molecular Wt.	Species Cross-Reactivity
WB, ICC/IF	Mouse	IgG1	35kDa	Hu, Mo, not Rt or Ms

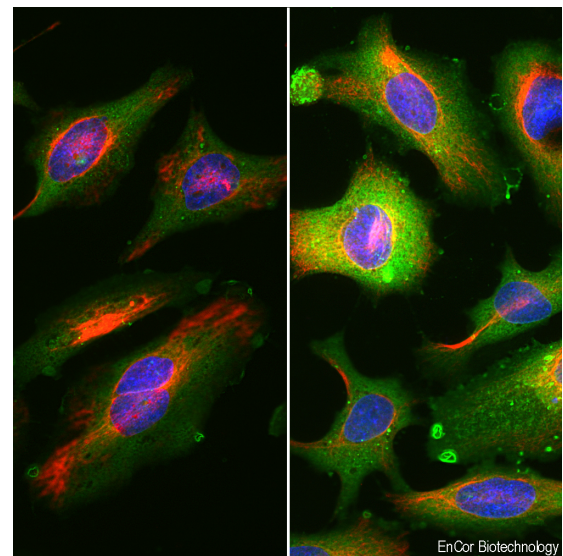


Western blot analysis of different cell lines lysates using mouse mAb to annexin A5, MCA-6A12, dilution 1:2,000 in green: [1] protein standard (red), [2] mouse NIH-3T3, [3] rat C6, [4] human HeLa, [5] human HEK293, [6] canine A72, [7] equine NBL6, and [8] African green monkey COS1 cells. The blot was simultaneously probed with EnCor rabbit pAb to HSP60, *RPCA-HSP60*, dilution 1:5,000, in red. The strong band at about 35kDa corresponds to annexin A5 protein, detected only in the human and monkey cells, the antibody does not recognize annexin A5 from other species. The HSP60 antibody used as a loading control reveals a single band at 60kDa in all cell preparations.

Background:

The annexins are a large family of related proteins which share the property of binding to phospholipid containing membranes in a Calcium dependent manner (1). Different members of the family were discovered by different laboratories and as a result the various members have many alternate names, such as lipocortin, calpactin, calelectrin and others. In fact Annexin A5 has a particularly surprising number of alternate names, 20 being listed on the [Genecards ANXA5](http://Genecards.org) site. The widely used current nomenclature is now based on a letter to indicate membership in a particular one of several annexin sub-families and a number for individual gene products, hence the name annexin A5. The annexin family is defined by a compact disc structure formed from 16 closely packed α -helices which coordinate multiple calcium ions with phospholipid containing membranes. This domain is defined by 4 imperfect repeats of a ~77 amino acid sequence, each repeat forming 4 α -helices (2,3). Annexin A5 is expressed widely in tissues and has been used as a marker of apoptosis, as apoptotic cells may express binding sites for this protein on their cell surface. The protein binds to phosphatidylserine, a membrane lipid normally not found on the external surface of cells which becomes expressed on the cell surface during apoptosis. As a result fluorescent annexin A5 or annexin A5 antibody can be used to isolate apoptotic cells by fluorescence activated cell sorting (4).

The MCA-6A12 antibody was made against full length recombinant human annexin A5 expressed in and purified from *E. coli*. The antibody is specific for human annexin A5 and does not recognize annexin A5 in rodents and many other mammals, although it does recognize annexin A5 in COS1 cells which originated from African green monkey. The antibody works well for western blotting and for IF, ICC and IHC of human material (see data under "Additional Info" tab). We also market a rabbit polyclonal antibody to annexin A5 which has a much wider cross-species reactivity *RPCA-ANXA5*.



Immunofluorescent analysis of HeLa cells stained with mouse mAb to annexin A5, MCA-6A12, dilution 1:1,000 in green, and costained with chicken pAb to vimentin, *CPCA-Vim*, dilution 1:2,000 in red. The blue is Hoechst staining of nuclear DNA. HeLa cells were grown under normal conditions, on the left, or treated with 15mM Pentoxifyline for 24 hours, on the right. Pentoxifyline activates apoptosis in these cells and also upregulates annexin A6 expression.

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Abbreviation Key:

mAb—Monoclonal Antibody pAb—Polyclonal Antibody WB—Western Blot IF—Immunofluorescence ICC—Immunocytochemistry
 IHC—Immunohistochemistry E—ELISA Hu—Human Mo—Monkey Do—Dog Rt—Rat Ms—Mouse Co—Cow Pi—Pig Ho—Horse Ch—Chicken
 Dr—*D. rerio* Dm—*D. melanogaster* Sm—*S. mutans* Ce—*C. elegans* Sc—*S. cerevisiae* Sa—*S. aureus* Ec—*E. coli*.

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