

### Background

Epithelial Cell Adhesion Molecule (EpCAM) is a signal type I transmembrane glycoprotein that has an extracellular domain with one thyroglobulin type-1 domain and a short cytoplasmic domain. EpCAM is found on the surface of adenocarcinoma, but not on mesodermal or neural cell membranes. The EpCAM molecule has been shown to function as a homophilic Ca<sup>2+</sup>-independent adhesion molecule. It may act as a physical homophilic interaction molecule between intestinal epithelial cells (IECs) and intraepithelial lymphocytes (IELs) at the mucosal epithelium. Defects in EpCAM cause hereditary non-polyposis colorectal cancer type 8 (HNPCC8) and diarrhea type 5 (DIAR5). EpCAM plays a role in embryonic stem cell proliferation and differentiation; it up-regulates the expression of FABP5, MYC, and Cyclin A & Cyclin E. It is highly and selectively expressed by undifferentiated embryonic stem cells and in many types of epithelial carcinomas.

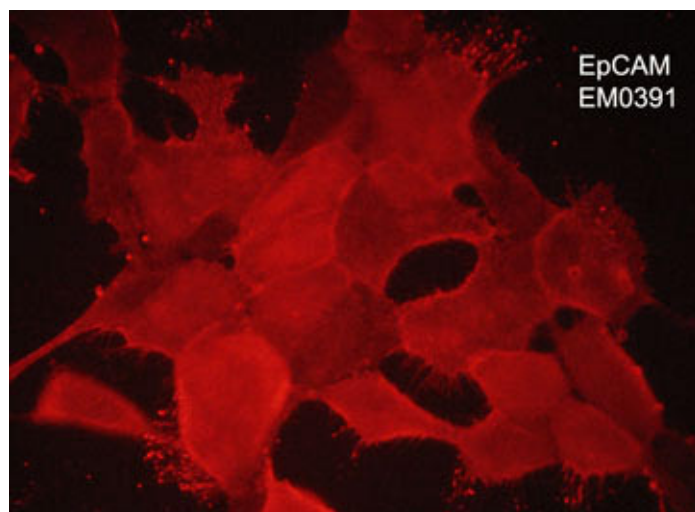


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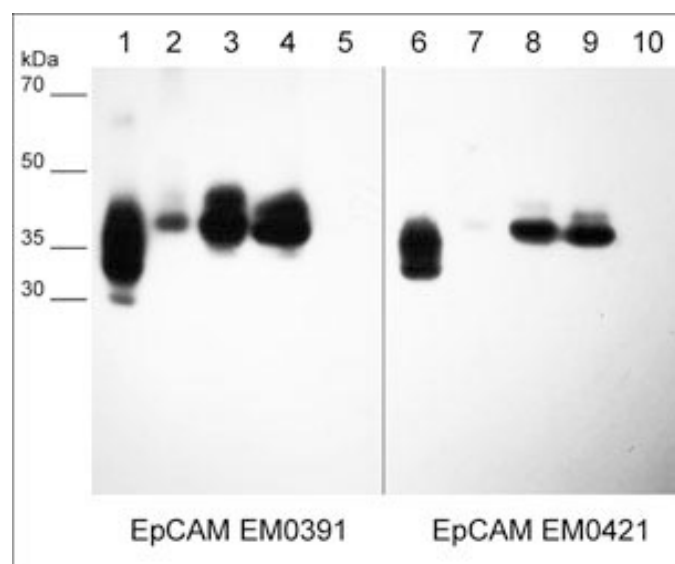
### Background References

Armstrong, A. & Eck, S.L. (2003) *Cancer Biol Ther.* 2:320.

Baeuerle, P.A. & Gires, O. (2007) *Br J Cancer.* 96:417.



Immunocytochemical labeling of EpCAM in aldehyde fixed human NCI-H1915 lung carcinoma cells. The cells were labeled with mouse monoclonal anti-EpCAM (EM0391). The antibody was detected using goat anti-mouse Ig:DyLight® 594.



Western blot of native lysates including human EpCAM extracellular region (lane 1 & 6), MCF7 breast carcinoma (lane 2 & 7), A431 skin adenocarcinoma (lane 3 & 8), NCI-H1915 lung carcinoma (lane 4 & 9), and NCI-H446 lung carcinoma (lane 5 & 10). The blot was probed with mouse monoclonal anti-EpCAM (EM0391) (lanes 1-5) and mouse monoclonal anti-EpCAM (EM0421) (lanes 6-10) at 1:1000 each.

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## Immunogen

Uniprot ID: P16422

Clone (M039) was generated from the extracellular region of human EpCAM.

## Buffer and Storage

Mouse monoclonal antibody purified with protein G chromatography is supplied in 100µl phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at -20°C. Stable for 1 year.

## Applications

WB	1:1000
ELISA (Cap)	1:100
ICC	1:100
IP	1:100

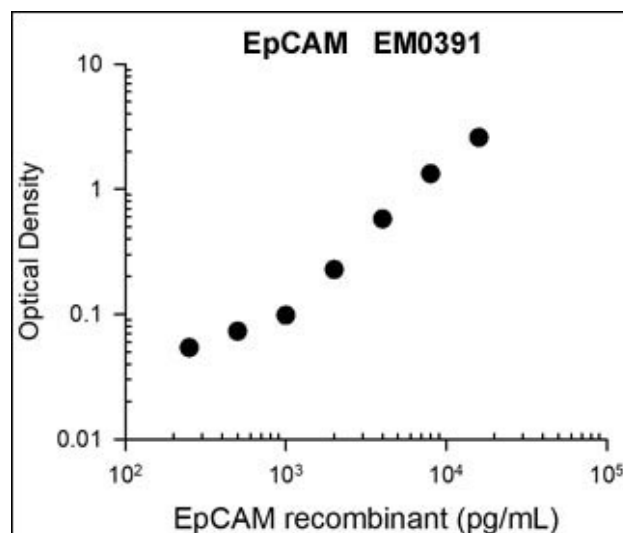
## Species Reactivity

Hu

**Isotype:** IgG1

End user should determine optimal dilution for their particular applications. Western blot membranes were incubated with diluted antibody in 5% non-fat milk, Tris buffer, 0.04% Tween20 for 1 hour at room temperature.

Abbreviations: E = ELISA, ELISA (Cap) = ELISA Capture ICC = immunocytochemistry, IHC = immunohistochemistry, IP = immunoprecipitation, MS = mass spectrometry, WB = western blot.  
Hu = Human, Ms = Mouse, Rt = Rat, Ck = Chicken, F = Frog, B = Bovine



Representative Standard Curve using mouse monoclonal anti-EpCAM (EM0391) for ELISA capture of human recombinant EpCAM extracellular region with a His-tag. Captured protein was detected by suitable anti-His-tag antibody followed by appropriate secondary antibody HRP conjugate.

## Specificity

Clone M039 mouse monoclonal antibody detects a 35-45 kDa\* protein on SDS-PAGE "Native" immunoblots of human A431, H1915, and MCF7 carcinomas. This antibody weakly detects denatured EpCAM. The antibody works for native western blot, immunoprecipitation, ELISA capture, and immunocytochemistry.

\*All molecular weights (MW) are confirmed by comparison to MW standards and to western blot mobilities of known proteins with similar MW.

"Native" western blot utilizes non-reducing sample buffer (no mercaptoethanol or SDS), normal SDS-PAGE gel electrophoresis, and no methanol in transfer buffers.

## Related Products

- CM0071 CD44 (Extracellular region) Mouse Monoclonal
- CM0101 CD44 (Extracellular region) Mouse Monoclonal
- TM0051 Trop-2/TACSTD2 (Extracellular region) Mouse Monoclonal
- CM0341 CD63 (Extracellular region) Mouse Monoclonal
- LM0231 L1CAM (Extracellular) Mouse Monoclonal
- EM0421 EpCAM (Extracellular region) Mouse Monoclonal



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