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Anti-Talin (Ser-425), Phosphospecific Antibody

Catalog # AN1986

Product Information

Application	WB, ICC
Primary Accession	Q9Y490
Reactivity	Rat
Host	Rabbit
Clonality	Rabbit Polyclonal
Isotype	IgG
Calculated MW	269767

Additional Information

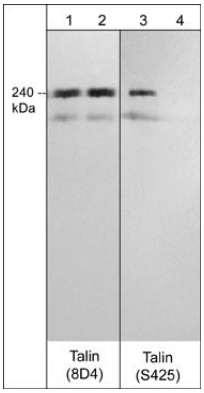
Gene ID	7094
Other Names	TLN1
Dilution	WB~~1:1000 ICC~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	Anti-Talin (Ser-425), Phosphospecific Antibody is for research use only and not for use in diagnostic or therapeutic procedures.
Shipping	Blue Ice

Background

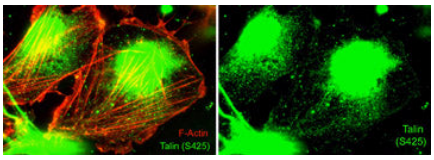
Talin is an important cytoskeletal component of integrin adhesion sites. Calpins cleave talin precursor (240 kDa) into an amino-terminal globular head domain of 47 kDa and a carboxyl-terminal 190 kDa rod domain. The talin head domain contains a FERM domain that binds integrins, PIP kinase (Type I), and FAK. The rod domain has several vinculin-binding sites, a second integrin-binding site, and two actin-binding sites. These talin protein-protein interactions are critical for integrin activation, focal adhesion formation, and cell migration. Talin regulation may occur through phosphorylation and regulated degradation. The talin head domain binds Smurf1, an E3 ubiquitin ligase, and this interaction leads to talin head ubiquitylation and degradation. Cdk5 can phosphorylate Ser-425 in the head domain, and this inhibits both binding to Smurf1 and subsequent degradation. The S425A talin mutant resists Cdk5 phosphorylation, increases susceptibility to Smurf1-mediated ubiquitylation, and inhibits cell migration. Thus, talin head phosphorylation may be important for regulating adhesion stability and cell migration

Images

Western blot of rat PC12 cells stimulated with Calyculin A (100 nM) for 30 min (lanes 1-4). The blot was treated with lambda phosphatase (lanes 2 & 4), then probed with



mouse monoclonal anti-Talin (8D4) (lanes 1 & 2) or rabbit polyclonal anti-Talin (Ser-425) (lanes 3 & 4) antibodies.



Immunocytochemical labeling of Talin phosphorylation relative to F-actin in chick fibroblasts. The cells were labeled with rabbit polyclonal Talin (Ser-425) antibody (AN1986), then the antibody was detected using appropriate secondary antibody (Green). This labeling is compared to F-actin staining (Red, Left). (Image provided by Dr. Gianluca Gallo at Drexel University).