

The Role of Palladin in Macrophage Motility and Phagocytosis



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Background

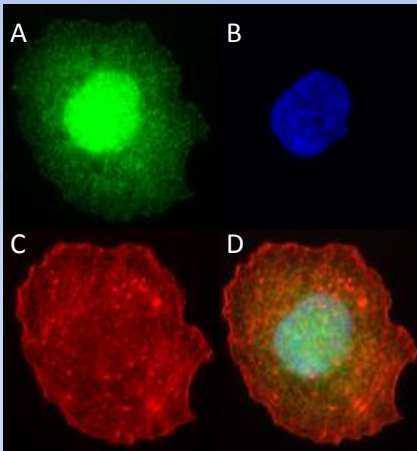
- Macrophages are thought to play a role in aiding cancer metastasis
- Describing macrophage motility is important to understanding metastasis
- Palladin has an implicated role in cell motility and recently numerous isoforms have been discovered that may play other roles

Goals

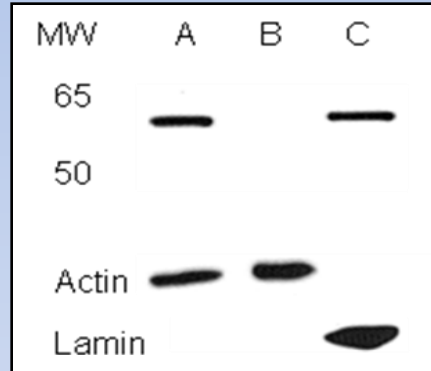
- Characterize palladin's role in basic macrophage functions such as phagocytosis and cell movement
- Characterize the role of new palladin isoforms, especially those in the nucleus.

Results

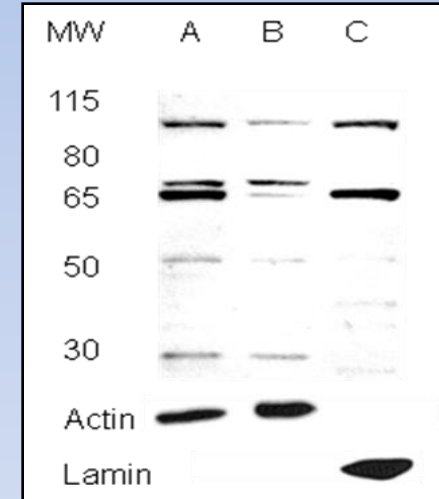
- There are three isoforms of palladin in the nucleus (~60 kDa, ~65 kDa, and ~100 kDa)
- More work is being done to determine palladin's role in macrophage function and its role in the nucleus



Palladin localization in THP-1 monocyte differentiated via phorbol ester. **A.** Antibody against palladin **B.** 4',6-diamidino-2-phenylindole (DAPI) staining for DNA (nuclear staining) **C.** Fluorescent probe detecting actin filaments (phalloidin) **D.** Combined image. Palladin is seen in the nucleus. (Courtesy of Silvia Goicoechea)



RAW Cell Western Blot with 4Ig Antibody **A.** Total cell lysate **B.** Cytoplasm Fraction **C.** Nuclear Fraction. The fractions were also blotted with anti-actin and anti-lamin antibodies to confirm that there was minimal contamination of the fractions.



RAW Cell Western Blot with 622 Antibody **A.** Total cell lysate **B.** Cytoplasm Fraction **C.** Nuclear Fraction. The fractions were also blotted with anti-actin and anti-lamin antibodies to confirm that there was minimal contamination of the fractions.