

## Assay for Arf GTP-binding Proteins

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**Keywords:** Diagnostics, biomarker, proteomics, Arf

### Background:

The National Cancer Institute's Laboratory of Cellular and Molecular Biology is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize an antibody-based proteomics assay.

### Description of Invention:

The worldwide laboratory research reagents market is expected to surpass \$13 billion in 2010, and the field of biotechnology appears key to maintaining the market's growth. Antibodies are becoming increasingly significant, especially for targeting the diseased cells and cell compounds.

Researchers at the National Cancer Institute (NCI), NIH, have developed an antibody-based assay that measures levels of Arf GTP-binding proteins, some of which have been linked to the invasive behavior of cancer cells. The assay is robust, can be performed both on cell lysates and fixed cells, and can distinguish among specific endogenous Arf-GTP isoforms.

### Applications:

- Research on Arf function in physiology and cancer
- Research on cancer invasion
- Research on membrane traffic and actin reorganization

### Advantages:

- Ability to distinguish between the specific isoforms (i.e., Arf1, Arf3, Arf4, Arf5, and Arf6)
- Antibodies bind preferentially to the GTP-bound form of Arf

### Inventor:

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### Relevant Publications:

1. Spang A et al. Arf GAPs: gatekeepers of vesicle generation. *FEBS Lett.* 2010 Jun 18;584(12):2646-2651. [[PubMed: 20394747](#)]
2. Campa F and Randazzo PA. Arf GTPase-activating proteins and their potential role in cell migration and invasion. *Cell Adh Migr.* 2008 Oct; 2(4):258-262. [[PubMed: 19262159](#)]

**Patent Status:** Research Material. Patent protection is not being pursued for this technology.

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