



BioMed Research International

Special Issue on  
**Vesicle Trafficking in Viral Entry, Replication, and Spread**

# CALL FOR PAPERS

The trafficking of membrane-bound vesicles containing such cargo as proteins and lipids within a cell is a critical cellular function and consists of two major pathways. The outward exocytic pathway moves cargo from the endoplasmic reticulum through the Golgi to the plasma membrane. The inward endocytic pathway moves cargo in the opposite direction via endosomes.

Endosomes are membrane-bound vesicles that can be formed from the plasma membrane via endocytosis, and they can be derived and recycled from internal membrane compartments such as lysosomes. A sophisticated system has evolved within cells to facilitate the formation and transport of endosomes. Key host cell components that are important for the formation and transport of endosomes include coat components such as clathrin and caveolin, dynamin, actin filaments, and the molecular motors dynein and kinesin. The directed polymerization of actin provides a mechanism for short-range intracellular transport of vesicles while the microtubule-dependent motors kinesin and dynein provide long-range intracellular transport.

Viruses acting as “probes” offer a unique opportunity to study this system, since endocytosis (and exocytosis) is often an integral component of their replication cycle. As most viruses are substantially larger than typical cellular cargo transported by vesicles and are more easily manipulated and labelled *in vitro*, they are far more amenable to imaging studies that can be used to track their subcellular dynamics.

We invite investigators to contribute review and original papers describing recent findings in the field of vesicle trafficking in the context of viral replication with an emphasis on endosome trafficking.

Potential topics include, but are not limited to:

- ▶ Role of viral proteins in vesicle trafficking
- ▶ The contribution of endosome recycling to viral entry and egress
- ▶ Identification of host cell proteins, such as Rabs, important for vesicle trafficking
- ▶ Characterisation of endocytic sorting motifs in viral proteins
- ▶ Role of clathrin-dependent and clathrin-independent endocytosis in viral replication
- ▶ Regulation of actin polymerisation by viral proteins which directly regulate Arp2/3 or indirectly via nucleation promoting factors such as WASP/WAVE
- ▶ Hijacking of microtubule-dependent molecular motors by viruses
- ▶ Latest technologies in tracing viral particles/proteins and identifying viral-host protein interactions important for entry, egress, and spread
- ▶ How antiviral drugs affect vesicle trafficking
- ▶ The role of exosomes in viral spread

Authors can submit their manuscripts via the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/bmri/virology/trvt/>.

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