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## ACCEPTED MANUSCRIPT

# Evidence of lipid rafts based on the partition and dynamic behavior of sphingomyelins

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#### Highlights

- Dynamic and partition behavior of sphingomyelin is essential for the raft oriented study.
- Raman and Mass-based imaging revealed the distribution of SM in artificial membranes.
- Conventional fluorescent labeling often alters intrinsic disposition of lipids
- Single fluorescent molecule tracking and super resolution imaging could trace the diffusional motion of single sphingomyelin molecule.
- Sphingomyelin provides a favorable environment for signaling proteins.

#### Abstract

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