Implication of Filamin A in Pulmonary Neuroendocrine Tumors aggressiveness and progression

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Pulmonary neuroendocrine tumors (PNTs) comprise different neoplasms, ranging from low grade carcinoids to the highly malignant small cell lung cancers (1). Several studies identified cytoskeleton protein Filamin A (FLNA) as determinant in cancer progression and metastasis (2-4). FLNA is a widely expressed cytoskeleton protein that acts as scaffolding molecule and is involved in different cellular events, including angiogenesis (5, 6). It has been found an interaction with Rap1, a small GTPase implicated in cell motility, and Filamin2 in microvascular smooth muscle (7), suggesting a possible role of Filamin A in mediating Rap1 effects. To date, the role of FLNA in PNTs aggressiveness and progression is still unknown.

In order to address this question, we evaluated FLNA expression in different PNTs, we studied the role of FLNA in cell proliferation, angiogenesis, cell adhesion and migration in PNT cell line (H727 cells) and primary cultures and we focused on the possible interaction between FLNA and Rap1 GTPase, implicated in the regulation of cell mobility.

**CONCLUSIONS**

FLNA:

- is overexpressed in PNTs and increases in PNTs with high malignant grade;
- plays a crucial role in PNTs cell proliferation, angiogenesis, colony formation, cell adhesion and cell migration;
- interacts with Rap1 in mediating H727 cell mobility

The involvement of FLNA in mediating PNT progression and aggressiveness, provides a potential diagnostic and therapeutic target.

**REFERENCES**


