

4. 形態・生理

データ閲覧・コメント入力可能期間：2021年3月28日0時～4月3日24時（予定）

[P4-18] Insight linking between nitration and myogenic dysfunction of HGF/NK1 domain

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Purpose: Recently, HGF nitration was reported with associating dysfunction to activate quiescent myogenic stem satellite cells (127th JSAS meeting abstract). Here we examine *in vitro* nitration of HGF/NK1 segment (N-terminal and kringle1 domains, critical for receptor c-met binding) and the effect on c-met binding that transduces mitogenic signals. **Methods:** Recombinant NK1 (a kind gift from TORAY Co.) was incubated with peroxyxynitrite at pH 7.4 and evaluated for tyrosine residue (Y) nitration by ECL-Western Blotting and for physiological activities including satellite cell activation (BrdU incorporation assay) and c-met binding affinity (sandwich ELISA-like assay). **Results:** Exposure of NK1 segment to peroxyxynitrite induced its nitration with a primary target of Y198. NK1 is a potent HGF agonist for satellite cell activation and the activity was abolished upon nitration by diminishing NK1-c-met affinity. Results proved that NK1 is a critical target for HGF nitration and the inhibitory effect on c-met binding may be centered on a mechanism that inhibits activation and proliferation of satellite cells.