

Handle region peptide, rat

Cat. No.:	HY-P1572
CAS No.:	749227-53-0
Molecular Formula:	C ₅₄ H ₁₀₁ N ₁₅ O ₁₂ S
Molecular Weight:	1184.54
Sequence Shortening:	RILLKKMPSV
Target:	Renin
Pathway:	Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description	Handle region peptide, rat is a prorenin receptor antagonist, suppresses the progression of diabetic nephropathy and has anti-inflammatory in the eye.
IC₅₀ & Target	Prorenin receptor ^[1]
In Vitro	Handle region peptide, rat is a (pro)renin receptor antagonist. Handle region peptide, rat (1 μM) reduces the ratio of active to total ERK1/2. Handle region peptide, rat (0.1-1 μM) reduces TGF-β1 mRNA level, and inhibits the mesangial cells proliferation in a dose-dependent manner. Handle region peptide, rat (0.01-1 μM) increases the MMP-2 activity ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Handle region peptide, rat (0.1 mg/kg) suppresses leukocyte adhesion in the endotoxin-induced uveitis (EIU) retina, and decreases the leukocyte counts in rats. Handle region peptide, rat (0.1 mg/kg) lowers the protein concentration in EIU rats induced by LPS, and reduces the mRNA expression and the protein levels of inflammatory mediators such as ICAM-1, CCL2/MCP-1, and IL-6 in rats ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay ^[1]	The immortalized rat glomerular mesangial cells are incubated at 37°C in Dulbecco's modified Eagle medium (DMEM) supplemented with 10% bovine calf serum (BCS) in a humidified atmosphere of 95% air plus 5% CO ₂ . When the cell reaches about 80% confluence, they are made quiescent by decreasing BCS to 0.5% for 24 to 48 h. To detect the effect of Handle region peptide on p44/42 MAP kinase, the cells are further cultured in serum-deprived medium for 24 h before 1 μM Handle region peptide is added in. The cells are harvested at 0, 1, 5, 10, 60, 120 min time points after Handle region peptide application. Protein isolated from cell lysates is used for subsequent Western blotting analysis ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration ^[2]	Rats ^[2] Long-Evans rats (5-7 weeks old) are treated with 0.1-mL intraperitoneal injections of vehicle (PBS) or Handle region peptide (0.1 or 0.01 mg/kg body weight) the day before and immediately after the injection of LPS. The effects of Handle region peptide treatment on ocular inflammation are evaluated 24 hours after LPS injection ^[2] .

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REFERENCES

- [1]. He M, et al. Inhibition of renin/prorenin receptor attenuated mesangial cell proliferation and reduced associated fibrotic factor release. *Eur J Pharmacol.* 2009 Mar 15;606(1-3):155-61.
- [2]. Satofuka S, et al. Suppression of ocular inflammation in endotoxin-induced uveitis by inhibiting nonproteolytic activation of prorenin. *Invest Ophthalmol Vis Sci.* 2006 Jun;47(6):2686-92.
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Caution: Product has not been fully validated for medical applications. For research use only.

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