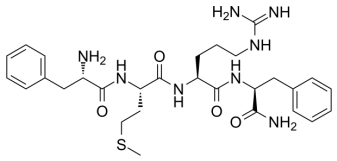
Phe-Met-Arg-Phe, amide

Cat. No.:	HY-P0249
CAS No.:	64190-70-1
Molecular Formula:	$C_{29}H_{42}N_8O_4S$
Molecular Weight:	598.76
Sequence:	Phe-Met-Arg-Phe-NH2
Sequence Shortening:	FMRF-NH2
Target:	Potassium Channel
Pathway:	Membrane Transporter/Ion Channel
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Phe-Met-Arg-Phe, amide dose dependently (ED_{50}=23 nM) activates a K^+ current in the peptidergic caudodorsal neurons.
IC_{50} & Target	ED50: 23 nM (K^+ current)[1]
In Vitro	In the molluscan central nervous system, Phe-Met-Arg-Phe, amide (FMRFa) acts on K^+ channels in sensory, motor-, and neuroendocrine neurones. Phe-Met-Arg-Phe, amide activates a novel K^+ current that is characterized by a combined voltage- and receptor-dependent gating mechanism, with both factors being necessary for opening of the channels[1]. Phe-Met-Arg-Phe, amide (1 μM) significantly inhibits glucose stimulated (300 mg/dL) insulin release ($p<0.005$) and somatostatin release ($p<0.01$) from the isolated perfused pancreas. Phe-Met-Arg-Phe, amide (FMRF-NH2) (1 and 10 μM) is without effect on glucagon secretion, either in low glucose (50 mg/dL), high glucose (300 mg/dL), or during arginine stimulation (5 mM)[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Phe-Met-Arg-Phe, amide (FMRFamide) stimulates growth hormone secretion in conscious OVX rats. The presence of Phe-Met-Arg-Phe, amide-like immunoreactivity in neuronal elements in the hypothalamus suggested a role for this in the hypothalamic control of the anterior pituitary function. The injection of 200 ng (313.8 picomoles) of FMRFamide (in 2 uL) produces a significantly increased plasma GH 15 min after injection. The GH-increasing effect of 400-800 ng (627-1255 picomoles) of FMRFamide is already developed after 5 min and lasted up to 30 min[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Kits KS, et al. Phe-Met-Arg-Phe-amide activates a novel voltage-dependent K+ current through a lipoxygenasepathway in molluscan neurones. J Gen Physiol. 1997 Nov;110(5):611-28.

[2]. Sorenson RL, et al. Phe-met-arg-phe-amide (FMRF-NH2) inhibits insulin and somatostatin secretion and anti-FMRF-NH2 sera detects pancreatic polypeptide cells in the rat islet. Peptides. 1984 Jul-Aug;5(4):777-82.

[3]. Ottlecz A, et al. Phe-Met-Arg-Phe-amide (FMRFamide) stimulated growth hormone secretion in conscious OVX rats. Neuropeptides. 1987 Feb-Mar;9(2):161-7.

Caution: Product has not been fully validated for medical applications. For research use only.

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