A 前体蛋白

前脑啡肽

Pre-proopiomelanocortin

γMSH	αMSH	CLIP	γ-LPH	β-END

强啡肽原

β-END

D



Pre-proorphanin FQ



B 蛋白水解加工的阿片肽

甲硫氨酸脑啡肽

亮氨酸脑啡肽

β-内啡肽

强啡肽

Amino acid sequence

Tyr Gly Gly Phe Met OH

.,. .., .., ...

Tyr Gly Gly Phe Leu OH

Tyr Gly Gly Phe Met Thr Ser Glu Lys Ser Gln Thr Pro

Leu Val Thr Leu Phe Lys Asn Ala IIe Val Lys Asn Ala His Lys Gly Gln OH

Tyr Gly Gly Phe Leu Arg Arg Ile Arg Pro Lys Leu Lys

Trp Asp Asn Gln OH

N α-新内啡肽 Tyr Gly Gly Phe Leu Arg Lys Tyr Pro Lys

孤啡肽 **Tyr Gly Gly Phe** Thr Gly Ala Arg Lys Ser Ala Arg Lys Leu Ala Asn Gln