A 前体蛋白 前脑啡肽

HU MU M M M L M

前前阿里皮素

γMSH	αMSH	CLIP	γ-LPH	β-END

强啡肽原



前孤啡肽

М

L

D

β-END



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

氨基酸序列

Tyr Gly Gly Phe Met OH

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

Tyr Gly Gly Phe Leu OH

Tyr Gly Gly Phe MetThr Ser Glu Lys Ser GlnThr Pro Leu ValThr Leu Phe Lys Asn Ala lle 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