4　萨姆布鲁克主编, 金冬雁等译. 分子克隆实验指南. 北京: 中国科学出版社, 1992. 880～887
5　Chow SA. *In vitro* assays for activities of retroviral integrase. Method: A Companion to Methods in Enzymology. 1997, **12**(4): 306
6　张龙翔, 张庭芳, 李令媛主编. 生化实验方法和技术. 北京: 高等教育出版社, 1997. 140～141

Purification and Assays for Activities of HIV-1 Integrase

LI Nan, ZHANG Jian-Hui[1], LING Shi-Gan[1]
School of Biopharmaceutics, China Pharmaceutical University, Nanjing 210009; [1]Laboratory of Molecular Virology, Institute of Basic Medicine, Academy of Military Medicine Sciences, Beijing 100850

Abstract　A recombinant plasmid pET-p31 containing an IN gene segment has been introduced into *E. coli* BL21 (DE3) to express high-level p31 in the form of inclusive bodies(IB). The wash-purified p31 was dissolved in 8 mol/L urea and a simple purification method was developed by which could be obtained soluble and high purified p31 based on ion exchange chromatography, gel filtration and subsequent restrict renaturation. Denatured and purified p31 was dialysed slowly against the buffer in which the urea concentration reduced gradually to remove the denaturation agent at last. Most of the p31 molecules could be recovered and become soluble during the process. The product showed significant activities of 3′-processing, chain transfer and disintegration.

Key words　HIV-1; Integrase; Inclusion bodies; Biological activities

【文摘 **013**】山紫菀类药材的性状与显微鉴别(Ⅳ)
张　勉, 徐珞珊, 王峥涛, 赵显国, 徐国钧. 中草药, 1999, **30**(12): 939

继前 3 报, 继续对 11 种山紫菀类药材即舟叶橐吾 *Ligularia cymbulifera* (W. W. Smith) Hnad.-Mazz.、浅苞橐吾 *L. cyathiceps* Hand.-Mass.、苍山橐吾 *L. tsangchanensis* (Franch.) Hand.-Mass.、异叶橐吾 *L. heterophylla* Rupr.、帕米尔橐吾 *L. alpigena* Pojark.、侧茎橐吾 *L. plaurocaulis* (Franch.) Hand.-Mass.、黄帚橐吾 *L. virgaurea* (Maxim) Mattf.、毛茎橐吾 *L. eriocaulis* M. Zhang et L. S. Xu、大头橐吾 *L. japonica* (Thunb) Less.、藏橐吾 *L. rumicifolai* (Drumm.) S. W. Liu、天山橐吾 *L. narynensis* (C. Winkl.) O. et B. Fedtsch. 的生药性状和显微鉴别特征进行报道。

【文摘 **014**】毛细管气相色谱法测定复方利福平片中异烟肼中吡嗪酰胺的含量　张　亮, 杭太俊, 毕宝英. 中国现代应用药学杂志, 1999, **16**(6): 41

目的: 建立复方利福平片中异烟肼和吡嗪酰胺的含量测定方法。方法: 毛细管气相色谱法, 以乙酰苯胺为内标, 色谱柱为弹性石英毛细管柱 25 m×0.32 mm×0.52 μm(DB-1); 柱温 170℃; 气化室温度 250℃; 检测器温度 250℃; 载气为高纯氮。结果: 异烟肼和吡嗪酰胺的线性范围分别是 0.4262.13 mg/ml 和 1.236.13 mg/ml; 平均回收率分别为 99.81% 和 99.63%。结论: 方法简便, 快速, 准确, 可作为该制剂的检测方法。

【文摘 **015**】蝙蝠葛苏林碱抑制 NMDA 引起的细胞游离钙升高而减少神经毒性　王　霆, 刘国卿, 朱兴族, 封新影, 李刚锋, 叶小英. 中国药学杂志, 1999, **34**(11): 739

目的: 研究蝙蝠葛苏林碱(daurisoline, DAU)拮抗 N-甲基-D-精氨酸(N-methyl-D-aspratate, NMDA)引起的神经毒性作用, 并对其作用机制进行了分析。方法: NMDA 损伤原代培养的海马神经细胞; 培养细胞内游离钙浓度的测定; 大鼠动脉条内 $^{86}Rb^{+}$ 外流率的测定。结果: DAU 能对 NMDA 损伤的原代培养的海马神经细胞有明显的保护作用, 能剂量依赖性地抑制损伤后培养细胞中 LDH 的释放; DAU 还能剂量依赖性地抑制 KCl, Bay, K8644, NMDA, 去甲肾上腺素(NE)以及咖啡因(caffeine)刺激的细胞内游离钙浓度的上升, 但并不影响静息的或由钾通道开放剂吡哪地尔(pinacidil, PIN)刺激的大鼠动脉条内 $^{86}Rb^{+}$ 的外流率。结论: DAU 通过阻断 NMDA 引起的细胞钙升高而拮抗神经毒性。

?1994-2016 China Academic Journal Electronic Publishing House. All rights reserved.　http://www.cnki.net