

Izolace DNA a genetické markery

Rozvoj molekulární biologie a aplikace typu PCR v rutinní diagnostice otevírají zcela nové trendy i ve screeningu tumorů GIT. Nejnovější screeningové metody jsou založeny na detekci specifických mutací metodami PCR nebo biočipovou technologií v DNA izolované ze vzorku stolice.

Molekulární biologie nabízí možnost detekce jednotlivých genetických markerů procesu vzniku kolorektálního karcinomu v sekvenci adenom – karcinom: ztráta/mutace genu APC na 5q, overexprese COX-2, aktivace/mutace K-ras na 12q, ztráta/mutace p53 na 17p, ztráta DCC na 18q. Genové mutace lze detekovat v biotickém vzorku tkáně tlustého střeva nebo ve vzorku stolice po izolaci DNA z epitelů kolonické sliznice. Komerčně nabízené soupravy zajišťují izolaci 10 – 30 µg DNA ze vzorku 220 mg stolice během padesátiminutového procesu a odstranění inhibitorů pro další PCR analytiku. Real-time PCR techniky umožňují např. detekci hypermetylace SFRP2 genu v DNA izolované ze stolice, jako marker kolorektálního karcinomu.

Odkazy

Související články

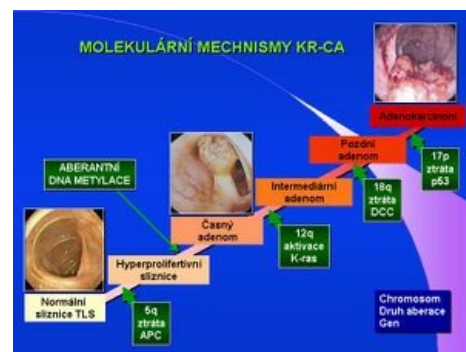
- Screening nádorů tlustého střeva
- Polymerasová řetězová reakce

Zdroj

- se svolením autora převzato z KOCNA, Petr. *GastroLab : MiniEncyklopedie laboratorních metod v gastroenterologii* [online]. ©2002. Poslední revize 2011-01-08, [cit. 2011-03-04]. <<http://www1.lf1.cuni.cz/~kocna/glab/glency1.htm>>.

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Molekulární mechanismy KR-CA

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