

این راهنما به منظور ارائه اطلاعات علمی و فنی لازم جهت جمع آوری ، انتقال ، آماده سازی و نگهداری نمونه ها برای آزمایش های ملکولی تهیه شده است. این مجموعه ترجمه پروتکل MM13-A بوده که در کمیته ویروس شناسی و بیولوژی ملکولی آزمایشگاه مرجع سلامت مورد بررسی و تأیید قرار گرفته است.

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Linkage analysis

(blood-borne)

(HPV)

/

:

-

:

() ()
). ()
 () ()

DNA RNA

DNA

DNA RNA

RNA

DNA

()

DNA RNA

¹ Bucal Cell

DNA RNA

(DNA RNA)

DNA RNA

RNA

DNA RNA

pH

CVS

CVS^r

DNA

² Prenatal

³ Chorionic Villus Sampling

)

CVS

CVS

(endometrial decidual
CVS

CVS

)

(

CVS

DNA

DNA

DNA

CVS

(Polyester tipped)

(Rayon)

HPV

⁴ Inverted Microscope

(RNA DNA)

(home brewed)

DNA

RNA

mRNA

<http://www.cdc.gov/od/ohs/biosfty/biosfty.htm>

<http://www.cdc.gov/od/ohs/pdffiles/DOTHAZMAT8-14-02.pdf>

http://www.who.int/csr/resources/publications/WHO_CDS_CSR_LYO_2004_9/en/

DNA

DNA

DNA

DNase

DNA

DNA

DNA

(Tris-EDTA) TE

DNA

(DNase

)

DNA

"frost-free"

DNA

DNA

RNA

RNA

RNA

(RNases)

RNA

DNA RNA)

(

/

EDTA

() EDTA

HCV HIV RNA

DNA

° با توجه به عدم گزارش هایی که مورد پذیرش بین المللی باشد

RNA
(mRNA)

RNA

RNA
DNA RNA

RNA RNA
RNA

HCV HIV

"heme"

Acid Citrate Dextrose (ACD) EDTA

()

DBS

DNA

DBS

(glassine)

DBS .

⁶ Frost-free
⁷ Viral load
⁸ Dried Blood Spots

PCR DNA

()

() EDTA :DNA

EDTA

- PCR

'Heme'

RNA

RNA

RNA

⁹ Bronchoalveolar Lavage (BAL)

RNA

(Buccal Cells)

DNA RNA

RNA

RNA

DNA

DNA

RNA

RNA

:Buffy Coat

DNA

Buffy Coat

DNA

RNA

RNA

RNA

eosinophilia

Buffy coat

(EBV)

(immortalization)

Buffy Coat

(CSF)

DNA

CSF

HSV CMV EBV VZV

DNA

RNA

CSF

RNA

RNA

CSF

(Cultured cells)

RNA

DNA

RNA

DNA

(FNA)

DNA

RNA

RNA

RNA

(

RNA

RNA

RNA

¹¹ Fine Needle Aspirate

DNA

:DNA

FISH inSitu

OCT

DNA

DNA

DNA

RPMI

¹² Optimal Cutting Temperature
¹³ Roswell Park Memorial Institute

RNA

RNA

RNA

RNA

RNA

OCT

(FISH) inSitu

RNA

)

RNA

RNA

(

OCT

RNase

RNA

" "

RNA

¹⁴ Guanidinium Isothiocyanate

RNA

RNA

RNase

(Oral Fluids)

RNA DNA

RNA

()

(FFPET)

FFPET

FFPET

DNA

DNA

)

(B5

RNA

RNA

FFPET

FFPET

Semen

semen DNA

DNA

in situ hybridization

¹⁵ Formalin- Fixed Paraffin Embedded Tissue

DNA

)

(

)

(

(Brooms

)

DNA

DNA RNA

()

PCR

DNA

()

DNA

pH

RNA

LCM

()

LCM

()

DNA

mRNA RNA

RNA

LCM

LCM

LCM

cDNA

LCM

Nested

PCR

¹⁶ Laser Capture Micro-dissection

PCR

()

(DNA/RNA)

DNA

DNA یہی

/ DNA

DNA

DNA

/ HBV HIV

(g)

(Vacuum)

(PH 7/4)

CSF

bronchoalveolar lavage CSF

NBF; Neutral)%

:()

(Buffered Formalin

DNA

DNA

DNA

%

DNA

%

pH=

RNA

DNA

%

% v/v

DNA

DNA

Carnoy's fixative

(%)

(%)

(%)

RNA

RNA

Methacarn

(%)

(%)

(%)

RNA

RNA

AMeX

DNA

AMeX

RNA

mRNA

AMeX

¹⁷ Acetone– Methylbenzoate- Xylen

Hope

. / / pH

RNA

RNA

RNA

DNA .

RT_PCR PCR

RNA

inSitu

inSitu

()

•

•

•

•

¹⁸ Hepes-glutamic acid buffer- mediated Organic solvent Protection Effect

(artifact)



DNA

PBS

Agar-Saline-Giemsa

FFPET

FFPET

FFPET

DNA

FFPET

FFPET

FFPET

FFPET

(/)

/

B5

¹⁹ Formalin Fixed Paraffin- Embedded Tissue

DNA

)

RNA DNA

FFPET

FFPET DNA

(Southern Blotting

DNA

DNA

FFPET

PCR

RT-PCR

RNA

FFPET

FFPET

(

)

DNA

PCR

%

DNA

"K"

L.C.M.

DNA

DNA RNA

DNA

DNA

DNA

RNA

()

RNA

Chomezynski & Sacchi

RNA

RNA

RNA

Target Capture

()

DNA

RNAase DNAase

99^oC

Silica Technology

Boom

(lysis and binding buffer)

RNAase

pH

)

(

()

(Micro Concentrator)

PBS

RNA

DNA

/

(Micro Concentrator)

() DNA

DNA

DNA

DNA

DNA

DNA

DNA

:

DNA

DNA

DNA

DNA

DNA

DNA

DNA

DNA

()

DNA

()

DNA ()

DNA

DNA

pH

DNA

DNA

DNA

PCR

Salting – out

DNA

DNA

RNase

DNA

DNA

CsCl

DNA

DNA

DNA

DNA

DNA
)
 DNA (RNA
 DNA DNA
 DNA
 DNA DNA
 DNA
 PCR DNA
 (kb) DNA
 RNA DNA
 DNA DNA
 DNA DNA
 DNA
 kb DNA
 DNA

²¹ Silica- Based Methods
²² Anion – Exchange Method

DNA

DBS

.PCR

DNA .

DNA

DNA .

DNA

DNA

DNA

RNA

RNA .

DNA

RNA

RNase A

PCR

DNA

DNA

DNA

RNA

DNase

RNase

DNA

K

:

K

Rotor Stator Homogenize

/

DNA

EDTA

DNA

DNA

DNA

DNA

DNA

g

K

DNA

DNA

(Home Made)

DNA

DNA

DNA

DNA

DNA

DNA

DNA

DNA

DNA .

DNA

DNA .

DNA

CSF

(Carries) DNA

RNA DNA

DNA

DNA

DNA

DNA

DNA

K

()

K

K

/

/

RNA

RNA

RNA

RNA

RNase

(Chaotropic)

RNA

RNase

Rotor-Stator Homogenizer

()

:

Bead Mills

/

/

()

)

(

Spin-Column

spin-column

spin-column

(clean up)

RNA

DNA

(

RNA mRNA

RNA

RNA) RNA

RNA

(K) K RNase (SDS)
 DNase I DNA
 K RNase RNA
) RNA (K
 DNase DNase I DNA
) DNase
 RNA DNase I (silica
 cDNA DNase I RT-PCR
 (denaturant) K
 pH
 RNA RNA DNA pH
 RNA RNA
 RNA RNA

²⁴ Chaotropic

RNase

RNA

RNA

salting out

RNA

DNA

RNA

RNA

()

RNA

RNA

DNA

RT-PCR

RNA

RNA

36000- x g)

()

RNA (supernatant)

DNA (40000

RNA

RNA

5s rRNA tRNA RNA

DNA RNA
DNA RNA ()
() RNA

RNA

RNA .

RNA

DNA RNA

RNA

RNA

RNA

RNA

DNA

RNA

RNA

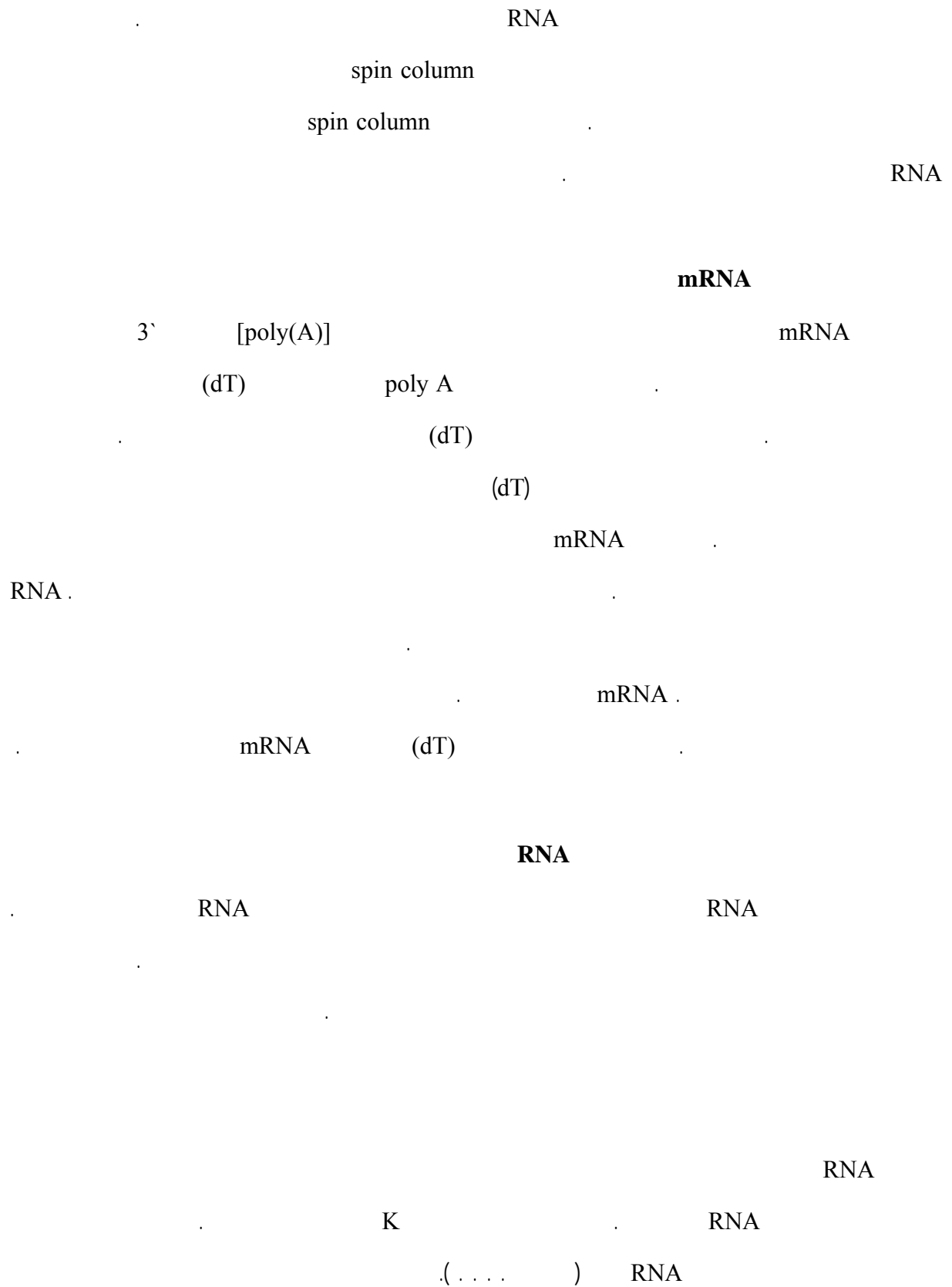
RNA

DNA

RNA

:

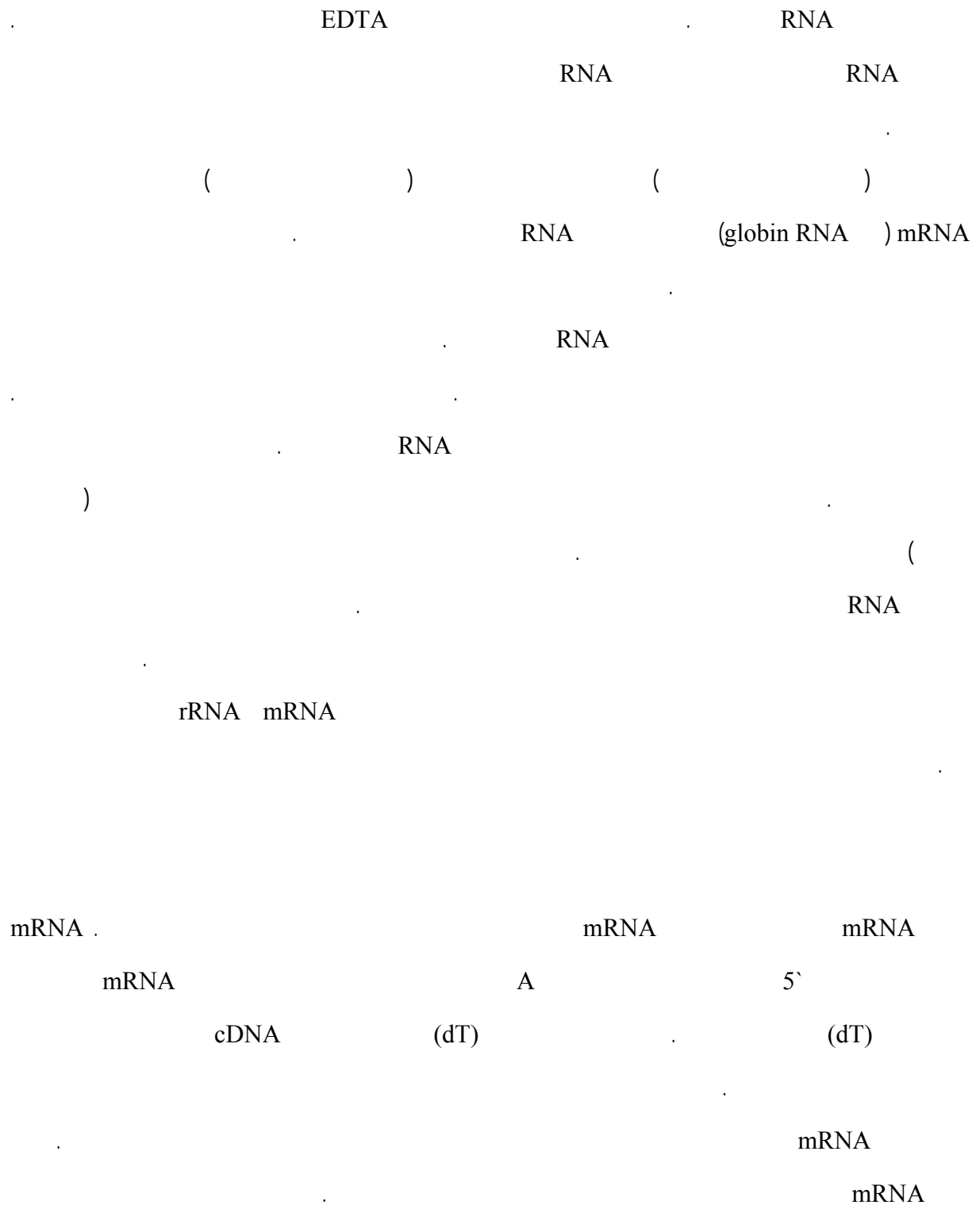
DNA



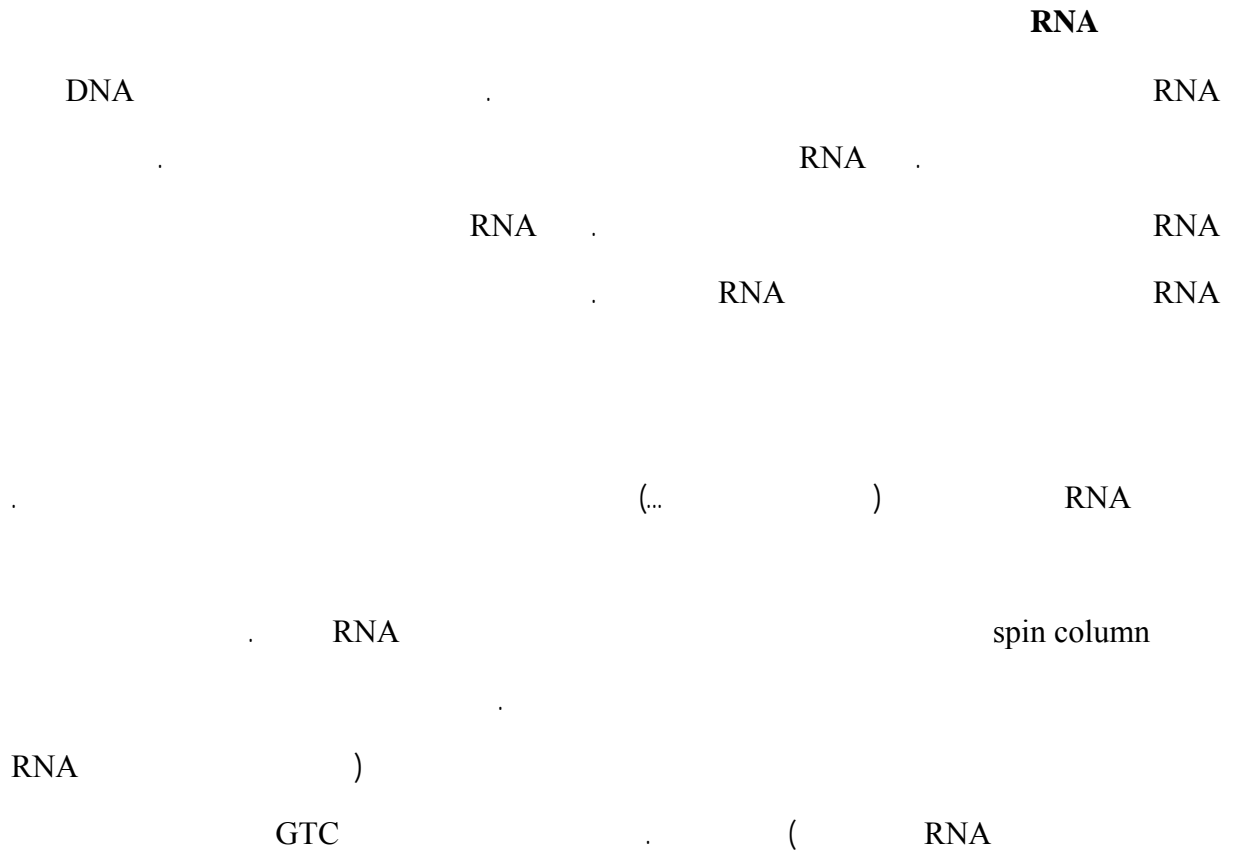
²⁵ Multiwell units

²⁶ Oligo Affinity Chromatography

²⁷ Centrifugal vacuum concentrator



²⁸ Density –Gradian Centrifugation
²⁹ Random Primer



³⁰ Free Circulating RNA
³¹ Guanidium Thiocyanate