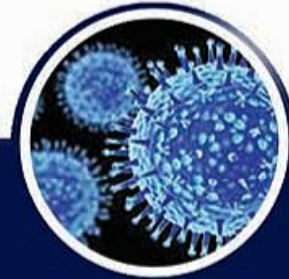
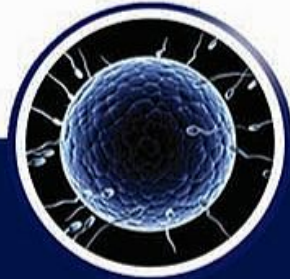




nargeslab

Pathobiology & Genetic

آزمایشگاه تخصصی
و فوق تخصصی
پاتوبیولوژی و ژنتیک



بسمه تعالی

آزمایشگاه پاتوبیولوژی و ژنتیک نرگس

راهنمای تهیه ، نگهداری ، بسته بندی و نقل و انتقال نمونه های آزمایشگاهی

ویرایش اول ، پاییز ۱۳۹۵ ، تیراژ ۱۰۰۰

کلیه حقوق برای آزمایشگاه نرگس محفوظ است .

Narges Pathobiology & Genetic Laboratory

Collection . Storage ,Packing and Transportation of Lab Sample

📍 اهواز، کیانپارس، خیابان میهن شرقی، پلاک ۱۸

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بر اساس گزارش Bonin خطاهای پیش از آزمایش (Preanalytical) عمده ترین نوع خطاهای آزمایشگاهی را تشکیل می دهند . در این مطالعه ۳۲-۷۵٪ خطاهای آزمایشگاهی مربوط به نحوه تهیه نمونه ، حجم نمونه ، نگهداری و انتقال نامناسب ، همولیز ، وجود لخته و ... می باشد . نظر به اهمیت این نوع خطاها و جهت استاندارد سازی مراحل پیش از آزمایش ، همکاران آزمایشگاه پاتوبیولوژی نرگس بر آن شدند تا با تألیف و تدوین این کتاب گامی در جهت ارتقاء کیفیت نمونه های آزمایشگاهی و اجرای الزامات آزمایشگاه مرجع سلامت بردارند .

از آنجائیکه بخش مهمی از خدمات ارائه شده توسط آزمایشگاه پاتوبیولوژی نرگس برای بیماران مراجعه کننده به آزمایشگاههای سراسر کشور می باشد ، این کتاب می تواند راهنمای مناسبی برای آن ها و کلیه آزمایشگاههای کشور عزیزمان باشد .

در تهیه و تدوین این کتاب علاوه بر اینکه از منابع علمی معتبر و متعددی استفاده شده است براین اساس روش ها ، تکنیک ها و کیت هایی تهیه شده است که در آزمایشگاه پاتوبیولوژی نرگس و یا در اغلب آزمایشگاههای سراسر کشور مورد استفاده قرار میگیرند . در واقع باید گفت که اطلاعات درج شده این راهنما جدید بوده و مورد استفاده امروز آزمایشگاه هاست .

جداسازی نمونه

جداسازی صحیح و به موقع سرم یا پلاسما و سایر اجزای تشکیل دهنده خون و همچنین سایر نمونه های کلینیکی نقش به سزایی در حفظ ماهیت آن ها دارد. از این رو همیشه تأکید بر این بوده تا در اولین فرصت ممکن (حداکثر ۱۵ دقیقه پس از نمونه گیری) نمونه ها سانتریفوژ شده و جداسازی انجام شود .

در اغلب مراجع برای سانتریفوژ سرم و پلاسمای هیپارینه و یا EDTA سرعت ۱۲۰۰-۱۰۰۰g به مدت ۱۵-۱۰ دقیقه و برای پلاسمای سیترا ته (کاربرد انعقادی) ۱۵۰۰g به مدت ۱۵ دقیقه (با دو بار سانتریفوژ) توصیه شده است . نحوه محاسبه و تبدیل واحد دور سانتریفوژ به شرح زیر می باشد :

$$RCF(g) = 1.118 * 10^{-5} * r * (RPM)^2$$

RCF : Relative centrifugal force

RPM : Round per minute

r : Turning radius centrifuge (cm)

نگهداری نمونه ها

جهت نگهداری نمونه های مختلف بیولوژیک شامل سرم ، پلاسما ، خون تام ، ادرار ، مایعات بدن و ... استفاده از لوله های پلاستیکی یک بار مصرف درب پیچ دار توصیه می شود .
دمای نگهداری شامل دمای اتاق (۱۵-۲۵ درجه سانتی گراد) ، دمای یخچال (۲-۸ درجه سانتی گراد) و دمای فریزر (۲۰- درجه سانتیگراد و پایین تر) می باشد .



بسته بندی نمونه ها

جهت حفظ نمونه ها از آسیب های فیزیکی ، دمایی و ریزش می بایست ظرف حمل و نقل متناسب با تعداد و حجم در نظر گرفته شود .
ظرف حمل و نقل شامل مشخصات زیر باشد :

۱- لایه اول ظرف یا ظروف ضد نشت اولیه یا محافظ اول

محتویات آنها نباید بیشتر از ۱ لیتر باشد .

۲- لایه دوم ظرف نشت ثانویه یا محافظ دوم

- در صورتیکه چند ظرف اولیه شکننده درون یک ظرف ثانویه قرار گیرد ، باید بطور منفرد و مجزا لفاف دار شوند تا از تماس و برخوردشان با یکدیگر و همچنین نشت به اطراف جلوگیری شود .
- اگر محتویات ظرف یا ظروف اولیه مایع باشد ، مواد جاذب به مقدار کافی بین ظروف اولیه و ثانویه گذاشته می شود .

- فهرست جزء به جزء نمونه و اقلام باید بین ظروف ثانویه و محافظ بیرونی قرار داده شود .

۳- لایه سوم محافظ بیرونی یا ضد نشت آخر

- باید دارای مقاومت کافی بوده و حداقل ابعاد بیرونی آن نباید از ۱۰۰ میلی متر کمتر باشد .

- محتویات بسته بندی بیرونی نباید بیشتر از ۴ لیتر یا ۴ کیلوگرم باشد اگر محموله نیازمند سرد نگه داشته شدن است ، این کمیت شامل یخ ، یخ خشک و نیتروژن مایع نیز می شود .

- برچسب نام و آدرس گیرنده و فرستنده و نام و شماره تلفن فرد مسئول و عبارت و نشان ماده بیولوژیکی باید بر روی لایه سوم (محافظ بیرونی) الصاق شود .

- اگر بسته بندی حاوی یخ خشک باشد باید وزن خالص یخ خشک در برچسب درج شود .

انتقال نمونه ها

پس از بسته بندی مناسب ، نمونه ها می بایست در شرایطی حمل گردند که کمترین تکان را داشته باشند و از نظر دمایی در شرایط ثابتی حمل و نقل شوند .



ایمنی و بهداشت حمل و نقل نمونه ها

جهت حفظ سلامتی حمل کننده نمونه و جلوگیری از آلوده سازی محیط می بایست امکانات رفع آلودگی (بسته ریزش هنگام حمل نمونه در دسترس باشد . بسته ریزش حاوی موارد زیر می باشد :

ماده ضد عفونی کننده عمومی (الکل اتانل ۷۰٪ یا دکونکس) ، هیپوکلریت سدیم ۱۰٪ ، گاز غیر استریل ، پنبه یا پارچه ، دستکش لاتکس ، ماسک ، زیپ کیپ ، انبر ، کیسه اتوکلاو هنگام ریزش ماده بیولوژیک (خون ، سرم ، ادرار ، مایعات بدن و ...) ابتدا بلافاصله با استفاده از ماسک و پوشیدن دستکش لاتکس ، گاز یا پنبه را روی محل ریزش قرار داده ، هیپوکلرید سدیم ۱۰٪ روی محل ریخته شده و حدود ۲۰ دقیقه صبر می کنیم تا عوامل عفونی امحا شود. اشیاء تیز و برنده را با استفاده از انبر و باقی مانده مواد را هم با دستکش داخل کیسه اتوکلاو منتقل می کنیم .

S: Serum

BF: Body Fluid

WB: Whole Blood

PE: Plasma (EDTA)

PC: Plasma (Citrate Na)

Ns: Nasal Secretion

FE: Fluid discharge from the ear

U: Urine

R: Random

D: Defibrinate

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Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
1	17 ketosteroids	U(24h) (See table 3) pH: 2-4	10	12 days	7 days at 2-8°C, 1 month at -20°C
2	17- OH progesterone	S	0.5	Weekly	7 days at 2-8°C, 3 months at -20°C
3	2ME	S	0.4	Daily	1 week at 2-8°C, for longer time at -20°C
4	ACE	S	0.5	Weekly	5 days at 2-8°C, 2 months at -20°C
5	Acetaminophen	S	1	12 days	7 days at 2-8°C, 2 months at -20°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C, -20°C	A large number of substances may interfere with this test . Decreases may be caused by : carbamazepine ,cephaloridine , cephalothin , chlormerodrin , digoxin , glucose , melyrapone, promazine , propoxyphene , reserpine , and others . Increases may be caused by acetone , acetophenide , ascorbic acid , chloramphenicol , chlorothiazide , chlorpromazine , cloxacilin , dexamethasone , erythromycin, ethinamate , etryptamine , methicilin , methypylon , morphine , oleandomycin , oxacilin , penicilin , phenaglycodol , phenazopyridine , phenothiazine , piperidine , quinidine , secobarbital , spironolactone , and others .		
at 2-8°C, -20°C	Avoid using medication	Hemolysis,Icteric Lipemic	
at 2-8°C, -20°C	Not recommended	Hemolysis,Icteric Lipemic	
at 2-8°C, -20°C	Notice using of captopril,enalapril , ... that affected ACE level	Hemolysis,Icteric Lipemic	Be separated quickly
at 2-8°C, -20°C	Not recommended		

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
6	Acetylcholine receptor Ab	S	0.5	Weekly	1 week at 2-8°C, for longer time at -20°C
7	Acid phosphatase (prostatic)	S (Added 30 ul acetic acid 1.5 mol/L to 1 ml of serum and mix)	1	10 days	5 hrs at RT, 7 days at 2-8°C
8	Acid phosphatase (total)	S (Added 30 ul acetic acid 1.5 mol/L to 1 ml of serum and mix)	1	10 days	5 hrs at RT, 5 days at 2-8°C, 3 months at -20°C
9	ACTH	PE	1	2 days	14 days at -20°C CRITICAL FROZEN
10	ADA	S, CSF, BF	0.5	Daily	5 days at 2-8°C, 1 month at -20°C
11	Adenovirus	See table 2	—	14 days	See table 2
12	Albumin	S, BF (See table 3)	0.5	S: Daily BF: 3 days	7 days at 2-8°C, 3 months at -20°C
13	Aldolase	S	0.3	12 days	5 days at 2-8°C, 2 months at -20°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	Be separated quickly avoid repeated freeze/thaw cycles
at 2-8°C	Fasting is recommended. Abstain using of cefotaxim few days prior to collection. Avoid prostate massage & rectal exam 2 days prior to collection	Hemolysis, Icteric Lipemic	Be separated quickly avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Fasting is recommended. Abstain using of cefotaxim few days prior to collection. Avoid prostate massage & rectal exam 2 days prior to collection	Hemolysis, Icteric Lipemic	Be separated quickly avoid repeated freeze/thaw cycles
at -20°C	Fasting Avoid using of tourniquet	Hemolysis	Be separated quickly and transport on ice Refrigerated centrifuge must be used.
at 2-8°C, -20°C	Not recommended	Hemolysis	
See table 2		See table 2	
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Not recommended	Hemolysis mild & gross, Icteric gross, Lipemic gross	Be separated quickly

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
14	Aldosterone	S, U(24h) (See table 3)	0.4,10	S: Weekly U: 14 days	3 days at 2-8°C, 1 month at -20°C
15	Alkaline phosphatase	S	0.5	Daily	3 days at 2-8°C, 2 months at -20°C
16	Alkaline phosphatase isoenzyme	S	0.5	10 day	3 days at 2-8°C, 2 months at -20°C
17	Alpha 1 Anti Trypsin	S	1	12 day	1 week at 2-8°C, 2 months at -20°C
18	Alpha fetoprotein	S, BF	0.5	2 days	7 days at 2-8°C, 3 months at -2
19	Alprazolam	S	1	10 days	7 days at 2-8°C, 2 months at -20°C
20	Amino acids chromatography	PE (preferred), CSF, U(Random)	1,1,10	12 days	1 day at 2-8°C, 1 month at -20°C
21	Ammonia	PE	0.5	Daily	20 min at 4°C
22	Amylase	S, U(24h) (see table 3)	0.3,10	S: Daily U: 12 days	S&U: 7 days at 2-8°C, S: 1 month at -20°C, U: 7 days at -20°C
23	ANA	S	0.3	2 days	7 days at 2-8°C, 3 months at -20°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C, -20°C	Abstain using of anti blood pressure, diuretic, ... 2 weeks prior to collection .	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Fasting, Notice use of hepatotoxic drugs	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Fasting, Notice use of hepatotoxic drugs	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Fasting is recommended. Avoid using of cefotaxim prior to collection	Hemolysis, Icteric Lipemic	
at 2-8°C, -20°C		Hemolysis	
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Fasting Urine must be fresh	Hemolysis	Plasma sample be separated quickly
at 2-8°C	Avoid using of tourniquet	Hemolysis, Icteric Lipemic	Refrigerated Centrifuge
at 2-8°C, -20°C	Fasting	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
24	ANCA $\begin{matrix} C \\ P \end{matrix}$	S	0.5	2 days	1 week at 2-8°C, 3 months at -20°C
25	Androstendione	S	0.5	Weekly	7 days at 2-8°C, 3 months at -20°C
26	Anti smooth muscle Ab (ASMA)	S	0.3	Weekly	7 days at 2-8°C, 3 months at -20°C
27	ANA (FANA)	S	0.5	3 days	7 days at 2-8°C, 3 months at -20°C
28	Anti B2 Glycoprotein Ab (IgG)	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
29	Anti B2 Glycoprotein Ab (IgA)	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
30	Anti B2 Glycoprotein Ab (IgM)	S	0.3	2 days	5 days at 2-8°C, 3 months at -20°C
31	Anti Cardiolipin Ab (IgG)	S	0.3	2 days	5 days at 2-8°C, 3 months at -20°C
32	Anti Cardiolipin Ab (IgM)	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
33	Anti Centromer Ab (IgG)	S	0.3	2 days	7 days at 2-8°C, 3 months at -20°C
34	Anti DNA (ds)	S	0.3	Weekly	7 days at 2-8°C, 3 months at -20°C
35	Anti Endomysial Ab (IgA)	S	0.3	3 days	5 days at 2-8°C, 3 months at -20°C
36	Anti Endomysial Ab (IgG)	S	0.3	Weekly	5 days at 2-8°C, 3 months at -20°C
37	Anti GAD Ab	S	1	14 days	5 days at 2-8°C, 3 months at -20°C
38	Anti GBM Ab	S	0.3	2 days	5 days at 2-8°C, 3 months at -20°C
39	Anti Gliadin Ab (IgA)	S	0.3	2 days	5 days at 2-8°C, 3 months at -20°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C, -20 °C	Not recommended	Hemolysis, Icteric Lipemic	
at 2-8°C, -20 °C	Fasting Sample collection 1 week before or after menstruation.	Hemolysis, Icteric Lipemic	
at 2-8°C, -20 °C	Not recommended		
at 2-8°C, -20 °C	Not recommended		
at 2-8°C, -20 °C	Not recommended	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20 °C	Not recommended	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20 °C	Not recommended	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20 °C	Not recommended	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20 °C	Not recommended	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20 °C	Not recommended	Hemolysis, Icteric Lipemic	
at 2-8°C, -20 °C	Not recommended	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20 °C	Not recommended		
at 2-8°C, -20 °C	Not recommended		
at 2-8°C, -20 °C	Not recommended		
at 2-8°C, -20 °C	Not recommended		
at 2-8°C, -20 °C	Fasting is recommended	Hemolysis, Icteric Lipemic	

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
40	Anti Gliadin Ab (IgG)	S	0.3	2 days	5 days at 2-8°C, longer time at -20°C
41	Anti GM1 Ab (IgG)	S	1	By contact	5 days at 2-8°C, 3 months at -20°C
42	Anti GM1 Ab (IgM)	S	1	By contact	5 days at 2-8°C, 3 months at -20°C
43	Anti Histone Ab	S	1	12 days	5 days at 2-8°C, 6 months at -20°C
44	Anti Intrinsic Factor	S	0.5	2 days	5 days at 2-8°C, 6 months at -20°C
45	Anti Leptospira Ab (IgG)	S	1	12 days	7 days at 2-8°C, 2 months at -20°C
46	Anti Leptospira Ab (IgM)	S	1	12 days	7 days at 2-8°C, 2 months at -20°C
47	Anti jo - 1 Ab	S	0.3	2 days	7 days at 2-8°C, longer time at -20°C
48	Anti Mullerian Hormone (AMH)	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
49	Anti Parietal Ab	S	0.3	2 days	5 days at 2-8°C, 3 months at -20°C
50	Anti Pemphigus Ab (IgG)	S	1	10 days	5 days at 2-8°C, 3 months at -20°C
51	Anti Phospholipid Ab (IgG)	S	0.3	2 days	7 days at 2-8°C, 3 months at -20°C
52	Anti Phospholipid Ab (IgM)	S	0.3	2 days	7 days at 2-8°C, 3 months at -20°C
53	Anti Platelet Ab	S	1	10 days	5 days at 2-8°C, 3 months at -20°C
54	Anti PR3	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
55	Anti RNP Ab	S	0.3	2 days	7 days at 2-8°C, 3 months at -20°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C, -20°C	Fasting is recommended.	Hemolysis, Icteric Lipemic	
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Not recommended	Hemolysis	
at 2-8°C, -20°C			avoid repeated freeze/thaw cycles
at 2-8°C, -20°C			
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	s.vol (ml)	Testing date	storage
56	Anti SCL-70 Ab (Topoisomerase)	S	0.3	2 days	7 days at 2-8°C, 3 months at -20°C
57	Anti smith Ab (Anti Sm Ab)	S	0.3	2 days	7 days at 2-8°C, 3 months at -20°C
58	Anti Sperm Ab	S	1	12 days	5 days at 2-8°C, 2 months at -20°C
59	Anti SSA (Ro) Ab	S	0.3	2 days	7 days at 2-8°C, 3 months at -20°C
60	Anti SSB (La) Ab	S	0.3	2 days	7 days at 2-8°C, 3 months at -20°C
61	Anti Thyroglobulin Ab	S	0.5	2 days	7 days at 2-8°C, 1 month at -20°C
62	Anti mitochondrial Ab (AMA)	S	0.3	2 days	7 days at 2-8°C, 3 months at -20°C
63	Antithrombin III	PC	0.8	15 days	8 days at 2-8°C, 1 month at -20°C
64	Apo A1	S	1	10 days	7 days at 2-8°C, 1 month at -20°C
65	Apo B	S	1	10 days	7 days at 2-8°C, 1 month at -20°C
66	APTT	PC	1	Daily	2 hrs at RT, 4 hrs at 2-8°C

Table 1 Continued

Transport	preparation before sampling	Reject	others
at 2-8°C, -20°C	Not recommended	Hemolysis, lcteric Lipemic	
at 2-8°C, -20°C	Not recommended	Hemolysis, lcteric Lipemic	
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Not recommended	Hemolysis, lcteric Lipemic	
at 2-8°C, -20°C	Not recommended	Hemolysis, lcteric Lipemic	
at 2-8°C, -20°C	Not recommended	Hemolysis, lcteric Lipemic	
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Not recommended	Hemolysis	avoid repeated freeze/thaw cycles Be separated quickly/Two times centrifugation is prefered
at 2-8°C, -20°C	Fasting	Hemolysis, lcteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Fasting	Hemolysis, lcteric Lipemic	avoid repeated freeze/thaw cycles
at RT, 2-8°C	Notice use of argatroban, heparin, heroin, ...	Hemolysis	Be separated quickly

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
67	ASCA (IgG)	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
68	ASCA (IgA)	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
69	ASO	S	0.4	Daily	7 days at 2-8°C, 1 month at -20°C
70	Aspirin (sallcylate)	S	1	12 days	7 days at 2-8°C, 1 month at -20°C
71	B2 microglobulin	S, U(R)	0.5,10	S: 2 days U: 12 days	3 days at 2-8°C, 3 months at -20°C (U: 2 months)
72	BUN	S	0.5	Daily	5 days at 2-8°C, 3 months at -20°C
73	Beta crosslaps	S	1	14 days	8 hrs at 2-8°C, 14 days at -20°C
74	Bence jones protein	U (R&24h) (See table 3)	10	14 days	7 days at 2-8°C, 1 month at -20°C
75	BhCG	S	0.5	Daily	7 days at 2-8°C, 1 month at -20°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	centrifuge 1000 rpm 10 min
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	centrifuge 1000 rpm 10 min
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C	Nephrotoxic drugs will change it.	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Not recommended	Hemolysis	
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Abstain using of chlorpromazine few days prior test (False positive)	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
76	Bilirubin	S	0.5	Daily	5 days at 2-8°C, 3 months at -20°C (dark place)
77	Bleeding time	WB	—	Daily	
78	Blood culture	WB	By contact	Daily	The same time transported at 37°C
79	Blood group & RH	WB(E)	1	Daily	1 day at RT, 1 week at 2-8°C
80	Bone marrow aspiration culture	BMA Within Blood culture bottle	1	Daily+8 days	The same time must be tested ..
81	Bone marrow aspiration pathology	BMA slide	1	7 days	3 months after fixation ..
82	Bone marrow biopsy culture	BMB	—	Daily+8 days	The same time must be tested ..
83	Bone marrow biopsy pathology	BMB	—	7 days	1 month after fixation ..
84	Borellia parasite	WB(E)	1	Daily	1 days at RT, 7 days at 2-8°C
85	Borrelia Burgdorferi Ab (IgG)	S, CSF	1	12 days	1 week at 2-8°C, 3 months at -20°C
86	Borrelia Burgdorferi Ab (IgM)	S, CSF	1	12 days	1 week at 2-8°C, 3 months at -20°C
87	Borrelia Burgdorferi Ab- western blot	S	1	By contact	1 week at 2-8°C, 3 months at -20°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8 c, -20°C (dark place)	Notice to using of hepatotoxic drugs	Hemolysis	avoid repeated freeze / thaw cycles
	Avoid using of anticoagulant drugs		
at RT < 1hr	Avoid using antibiotic		
at RT, 2-8°C	Not recommended	Hemolysis, Frozen Clotting	
at 2-8°C	Avoid using antibiotic		
at RT	Not recommended		
	Avoid using antibiotic		
at RT	Not recommended		
at 2-8°C	Not recommended		
at 2-8 c, -20°C	Not recommended	Hemolysis, Icteric Lipemic	
at 2-8 c, -20°C	Not recommended	Hemolysis, Icteric Lipemic	
at 2-8 c, -20°C	Not recommended	Hemolysis Lipemic	

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
88	Brucella Ab (IgG)	S, CSF	0.3	Weekly	7 days at 2-8°C, 3 months at -20°C
89	Brucella Ab (IgM)	S, CSF	0.3	Weekly	7 days at 2-8°C, 3 months at -20°C
90	Brucella culture	WB	5	Daily+28 days	at 37°C.
91	Brucella PCR	See table 2	—	14 days	See table 2
92	BK Virus	See table 2	—	5 days	See table 2
93	C1 Inhibitor	S	0.3	2 days	2 days at 2-8°C, 2 weeks at -20°C
94	C3	S	0.3	3 days	7 days at 2-8°C, 1 month at -20°C
95	C4	S	0.3	3 days	7 days at 2-8°C, 1 month at -20°C
96	CA125	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
97	CA15-3	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
98	CA19-9	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
99	CA242	S	1	12 days	3 days at 2-8°C for longer time at -20°C
100	CA72-4 (TAG-72)	S	1	12 days	3 days at 2-8°C for longer time at -20°C
101	Calcitonin	S	0.5	2 days	5 days at 2-8°C for longer time at -20°C
102	Calcium	S, BF, U (R & 24h)	0.5, 0.5 10	S, BF: Daily U: 3 days	8 days at 2-8°C for longer time at -20°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 37°C	Avoid using antibiotic		
at 2-8°C	See table 2	See table 2	See table 2
at 2-8°C	See table 2		See table 2
at 2-8°C, -20°C	Fasting is recommended	See table 2	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Not recommended	Hemolysis (Mild,Gross)	
at 2-8°C, -20°C	Fasting is recommended		
at 2-8°C, -20°C	Fasting is recommended. Avoid using of tourniquet	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
103	Calprotectin (stool)	Stool	1 gr	3 days	1 day at 2-8°C
104	Carbamazepine	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
105	CBC	WB (E)	1	Daily	4 hrs at RT, 1 day at 2-8°C
106	CCP Ab	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
107	CD10	WB (E)	2	10 days	2 days at RT
108	CD103	WB (E)	2	10 days	2 days at RT
109	CD117	WB (E)	2	10 days	2 days at RT
110	CD11a	WB (E)	2	10 days	2 days at RT
111	CD11b	WB (E)	2	10 days	2 days at RT

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C			
at 2-8°C, -20°C	Not recommended		
at RT, 2-8°C	Not recommended	Hemolysis, Clotting, Frozen. Incorrect anticoagulant	
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
112	CD11c	WB (E)	2	10 days	2 days at RT
113	CD HLA-DR (13)	WB (E)	2	10 days	2 days at RT
114	CD MPO	WB (E)	2	10 days	2 days at RT
115	CD13	WB (E)	2	10 days	2 days at RT
116	CD14	WB (E)	2	10 days	2 days at RT
117	CD15	WB (E)	2	10 days	2 days at RT
118	CD16	WB (E)	2	10 days	2 days at RT
119	CD18	WB (E)	2	10 days	2 days at RT
120	CD19 (B-cell)	WB (E)	2	10 days	2 days at RT

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
121	CD1a	WB (E)	2	10 days	2 days at RT
122	CD2	WB (E)	2	10 days	2 days at RT
123	CD20	WB (E)	2	10 days	2 days at RT
124	CD21	WB (E)	2	10 days	2 days at RT
125	CD22	WB (E)	2	10 days	2 days at RT
126	CD23	WB (E)	2	10 days	2 days at RT
127	CD25	WB (E)	2	10 days	2 days at RT
128	CD27	WB (E)	2	10 days	2 days at RT
129	CD3 (T-cell)	WB (E)	2	10 days	2 days at RT

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
130	CD33	WB (E)	2	10 days	2 days at RT
131	CD34	WB (E)	2	10 days	2 days at RT
132	CD38	WB (E)	2	10 days	2 days at RT
133	CD4	WB (E)	2	10 days	2 days at RT
134	CD41	WB (E)	2	10 days	2 days at RT
135	CD43	WB (E)	2	10 days	2 days at RT
136	CD45	WB (E)	2	10 days	2 days at RT
137	CD45RO	WB (E)	2	10 days	2 days at RT
138	CD5	WB (E)	2	10 days	2 days at RT

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
139	CD54	WB (E)	2	10 days	2 days at RT
140	CD55	WB (E)	2	10 days	2 days at RT
141	CD59	WB (E)	2	10 days	2 days at RT
142	CD64	WB (E)	2	10 days	2 days at RT
143	CD68	WB (E)	2	10 days	2 days at RT
144	CD7	WB (E)	2	10 days	2 days at RT
145	CD71	WB (E)	2	10 days	2 days at RT
146	CD79	WB (E)	2	10 days	2 days at RT
147	CD8	WB (E)	2	10 days	2 days at RT

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
148	CD IgD	WB (E)	2	10 days	2 days at RT
149	CD IgM	WB (E)	2	10 days	2 days at RT
150	CD tdt	WB (E)	2	10 days	2 days at RT
151	CEA	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
152	Ceruloplasmin	S	0.5	3 days	7 days at 2-8°C for longer time at -20°C
153	CH50	S	1	Weakly	2 hrs at RT, 14 days at -20°C
154	Chlamydia(IgA, IgG ,IgM) pneumonia	S	1	2 days	1 day at RT, 7 days at 2-8°C, 3 months at -20°C
155	Chlamydia(IgA, IgG ,IgM) trachomatis	S	1	2 days	1 day at RT, 7 days at 2-8°C, 3 months at -20°C
156	Chlamydia trachomatis PCR	See table 2	—	14 days	See table 2
157	Chlordiazepoxide	S	1	10 days	7 days at 2-8°C, 14 days at -20°C
158	Chloride	S, U(R &24h) (see table 3)	0.5, 10	S: Daily U: 3 days	24 hrs at RT, 7 days at 2-8°C, 3 months at -20°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at RT	Not recommended	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at 2-8°C, -20°C	Fasting is recommended	Hemolysis, Icteric, Lipemic	
at 2-8°C, -20°C	Not recommended	Hemolysis	avoid repeated freeze/thaw cycles
at -20°C			
at 2-8°C, -20°C			
at 2-8°C, -20°C			
	Not recommended		
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Fasting is recommended.	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
159	Cholesterol	S	0.3	Daily	24 hrs at RT, 7 days at 2-8°C, 3 months at -20°C
160	Cholinesterase	S, WB (E)	0.5	10 days	Serum: 7 days at 2-8°C, 3 months at -20°C WB: 3 days at 2-8°C
161	CIC	S	1	10 days	2 days at 2-8°C, 1 month at -20°C
162	Citrate	U (24&R) (See table 3) pH=2	10	Weekly	1 week at 2-8°C, 1 month at -20°C
163	Clonazepam	S	1	10 days	7 days at 2-8°C, 3 months at -20°C
164	Clostridium difficile toxins	Stool	1 gr	3 days	2 hrs at RT, 3 days at 2-8°C
165	Clotting time	WB	—	Daily	
166	CMV Ab (IgG)	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
167	CMV Ab (IgM)	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
168	CMV Ag (pp65)	WB (E)	3	By contact	1 hrs at RT
169	CMV PCR (qualitative)	See table 2	—	5 days	See table 2
170	CMV PCR (quantitative)	See table 2	—	5 days	See table 2

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C, -20°C	Fasting is recommended	Hemolysis, Icteric, Lipemic	
Serum: at 2-8°C, -20°C WB: 2-8 °C	Not recommended	Serum: Hemolysis Lipemic WB: Hemolysis Clotting, Frozen Incorrect anticoagulant	
at 2-8°C, -20°C	Fasting is recommended		
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Not recommended		
at 2-8°C			
	Abstain using of anticoagulant drugs		
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
4 hrs at RT	Not recommended	Hemolysis, Clotting Incorrect anticoagulant	
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Not recommended		

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
171	Consult & Block pathology	Block & Slide	—	7 days	Minimum 15 years after fixation
172	Coomb Wright	S, BF, CSF	1	2 days	2 days at 2-8°C, 7 days at -20°C
173	Coombs (Direct)	WB (E)	1	Daily	1 days at RT, 5 days at 2-8°C
174	Coombs (Indirect)	S	0.5	Daily	5 days at 2-8°C, 1 month at -20°C
175	Copper	S, U(R&24h) (see table 3)	0.5,10	Weekly	7 days at 2-8°C, 3 months at -20°C
176	Cortisol	S, U(24h) (see table 3)	0.5,10	S: 2 days U: Weekly	7 days at 2-8°C, 3 months at -20°C
177	C-peptide	S	0.5	2 days	7 days at 2-8°C, 1 month at -20°C
178	CPK	S	0.3	Daily	7 days at 2-8°C, 1 months at -20°C (dark place)
179	CPK-MB	S	0.5	Daily	7 days at 2-8°C, 1 month at -20°C (dark place)
180	Creatinine	S, U(R&24h) (see table 3)	0.3,10	S: Daily U: 3 days	7 days at 2-8°C, 3 months at -20°C
181	Creatinine clearance	S, U(24h) (see table 3)	0.3,10	S: Daily U: 3 days	7 days at 2-8°C, 3 months at -20°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
	Not recommended		
at 2-8°C, -20°C	Not recommended	Hemolysis	
at 2-8°C	Not recommended	Hemolysis, Clotting Frozen	
at 2-8°C, -20°C	Not recommended	Hemolysis	
at 2-8°C, -20°C		Hemolysis, Icteric Lipemic	
at 2-8°C, -20°C	Avoid using of spironolacton, quinacrine,... Abstain stress,...	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Fasting	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Avoid heavy physical activity prior test.	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Avoid heavy physical activity prior test.		
at 2-8°C, -20°C	Avoid heavy physical activity prior test.	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Avoid heavy physical activity prior test.	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
182	CRP	S, BF	0.3	Daily	7 days at 2-8°C, 3 months at -20°C
183	CRP high sensitive	S, BF	1	10 days	7 days at 2-8°C, 3 months at -20°C
184	Cryoglobulin	S, Clot, maintain whole blood at 37°C until Clotting is complete. Separate serum from cells using a 37°C centrifuge, if possible	2	By contact	Serum 2 days at RT
185	CSF electrophoresis (OCB)	S & CSF (Both same time)	1	30 days	7 days at 2-8°C, 3 month at -20°C
186	CSF Culture	CSF	1	Daily+8 days	The same time must be tested
187	CSF IgG	CSF	0.5	3 days	1 week at 2-8°C, 3 months at -20°C
188	Cyclosporine	WB (E)	1	2 days	7 days at 2-8°C
189	Cyclosporine 2 hrs	WB (E)	1	2 days	7 days at 2-8°C
190	Cystatine C	S	1	12 days	7 days at 2-8°C, 2 months at -20°C
191	Cystine	U (R&24h) (see table 3)	10	Weekly	1 months at -20°C CRITICAL FROZEN

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C, -20°C	Not recommended	Hemolysis , Icteric Lipemic	
at 2-8°C, -20°C	Not recommended	Hemolysis , Icteric Lipemic	avoid repeated freeze/thaw cycles
at RT	Fasting	Hemolysis Icteric, Lipemic Frozan , Storage at 2-8°C	Whole blood drawn in a pre - warmed (37°C) tube and syringe .
at 2-8°C, -20°C	Not recommended		
at RT	Avoid using antibiotic, Second tube sampling is appropriate		
at 2-8°C, -20°C	Not recommended		
at 2-8°C	Not recommended	Hemolysis , Icteric Lipemic	
at 2-8°C	Not recommended	Hemolysis , Icteric Lipemic	
at 2-8°C, -20°C	Not recommended		avoid repeated freeze/thaw cycles
at -20°C	Avoid using of penicillinamine few days prior to collection .		

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
192	Cytology(Add 96° Ethanol with equal Volume)	BF, U	10	5 days	2 days at 2-8°C prepared slide, 3 months at RT
193	D-dimer	PC	1	Daily	8 hrs at 2-8°C, 1 month at -20°C
194	DHEA SO4	S	0.5	2 days	7 days at 2-8°C, 2 months at -20°C
195	Diazepam	S	1	10 days	7 days at 2-8°C, 3 months at -20°C
196	Dihydrotestosterone (DHT)	S	0.5	Weekly	8 hrs at 2-8°C, 1 month at -20°C
197	Digoxin	S	0.5	Daily	7 days at 2-8°C, 3 months at -20°C
198	Diphtheria Ab (IgG)	S	1	By Contact	7 days at 2-8°C, for longer time at -20°C
199	Direct immunofluorescence (DIF)	Biopsy is normal saline on ice	—	5 days	4 hrs on ice, prepared slide, 3 months at -20°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
Fluid at 2-8°C slide at RT	Not recommended		
at 2-8°C, -20°C	Not recommended		centrifuge at 1500 rpm at 15 min
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C			
at 2-8°C, -20°C	Avoid using of neomycin, spironolactone 7 days prior to collection.	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at -20°C	Not recommended		

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
200	Dopamine	U (24h) (see table 3)	10	14 days	7 days at 2-8°C, 1 month at -20°C (dark place)
201	Dysmorphic RBC	U (R)	10	Daily	Rapidly must be analysed
202	EBV Ab (IgG)	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
203	EBV Ab (IgM)	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
204	EBV PCR	See table 2	—	14 days	See table 2
205	Entamoeba histolytica Ab (IgG)	S	0.5	Weekly	7 days at 2-8°C, 3 months at -20°C
206	Enterovirus PCR	See table 2	—	14 days	See table 2
207	Epinephrine	U (24h) (see table 3)	10	14 days	7 days at 2-8°C, 1 month at -20°C (dark place)
208	Erythropoietin (EPO)	S	1	20 days	7 days at 2-8°C, 2 months at -20°C
209	ESR	WB (C)	2	Daily	4 hrs at RT, 12 hrs at 2-8°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C, -20°C	Not recommended	Patient Prep: Abstain from medications for 72 hours prior to collection	
	Not recommended		
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
See table 2	Not recommended		
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
See table 2	Not recommended		
at 2-8°C, -20°C	Abstain from emotional and mental stress, medications for 3 days prior to collection		
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at RT, 2-8 °C	Not recommended	Hemolysis, Clotting	

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
210	Estradiol	S	0.5	2 days	3 days at 2-8°C, 3 months at -20°C
211	Ethosuximide	S	1	10 days	7 days at 2-8°C, 1 month at -20°C
212	Fasciola Ab (IgG)	S	0.5	Weekly	2 days at 2-8°C, 1 month at -20°C
213	Factor V leiden (APCR)	PC	0.5	15 days	2 hrs at RT, 14 days at -20°C, 6 months at -80°C
214	FDP	PC	1	Daily	2 hrs at RT
215	Ferritin	S	0.5	2 days	4 hrs at RT, 2 days at 2-8°C, 3 months at -20°C
216	Fibrinogen	PC	0.5	Daily	2 hrs at RT
217	Fluid analysis	BF	1	Daily	The same time must be tested
218	Flurazepam	S	1	10 days	4 days at 2-8°C, 3 months at -20°C
219	FNA (fine niddle aspiration)	Asp . Fluid	1 ml fluid or 3 slides	5 days	after fixation 3 months for prepared slides at RT.

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C, -20°C	Fasting	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C		Hemolysis	avoid repeated freeze/thaw cycles Be separated quickly Two times centrifugation is preferred
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	Centrifuge 2000-2500 rpm at 15 min
at 2-8°C, -20°C	avoid using of iron 7 days prior to collection	Hemolysis, Icteric Lipemic	avoid repeated freeze /thaw cycles
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric, Lipemic	Be separated quickly
at RT<1hr	Not recommended		
at 2-8°C, -20°C	Not recommended		
at RT	Not recommended		Slides should be prepared at the same time and dried in air and fixed

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
220	Folic acid	S	0.5	2 days	4 hrs at RT, 2 days at -20°C 3 months at -80°C out of light
221	Free BhCG	S	0.4	5 days	4 hrs at RT, 2 days at 2-8°C, 2 months at -20°C
222	Free cortisol	U (24h) (See table3)	10	Weekly	7 days at 2-8°C, 3 months at -20°C
223	Free Estriol	S	0.5	5 days	8 hrs at RT, 1 week at 2-8°C, 1 month at -20°C
224	Free Kappa	S, U(R)	0.5,10	14 days	7 days at 2-8°C 1 month at -20°C
225	Free Lambda	S, U(R)	0.5,10	14 days	7 days at 2-8°C, 1 month at -20°C
226	Free PSA	S	0.5	2 days	2 days at 2-8°C, 3 months at -20°C
227	Free T3	S	0.5	2 days	7 days at 2-8°C, 1 months at -20°C
228	Free T4	S	0.5	2 days	7 days at 2-8°C, 1 month at -20°C
229	Free testosterone	S	0.5	Weekly	8 hrs at RT, 7 days at 2-8°C, 1 month at -20°C
230	FSH	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C, -20°C	Fasting	S: Hemolysis icteric, Lipemic WB: Frozen, Clotting Incorrect anticoagulant	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Not recommended	Hemolysis	cold chain compliance during transport avoiding frozen samples after thawing
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	
at 2-8°C, -20°C	Not recommended		avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric, Lipemic	
at 2-8°C, -20°C	Notice to drug interference such as Salicylates, ...	Hemolysis, Icteric, Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Notice to drug interference such as Salicylates, ...	Hemolysis, Icteric, Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric, Lipemic	
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric, Lipemic	

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
231	FTA Ab (abs)	S	0.5	Weekly	1 day at RT, 7 days at 2-8°C, 2 months at -20°C
232	G6PD (quan & qual.)	WB (E)	1	qual: Daily, quan: 10 days	1 day at RT, 7 days at 2-8°C
233	Gabapentin	S	1	14 days	7 days at 2-8°C, 3 months at -20°C
234	Gamma GT	S	0.3	Daily	7 days at 2-8°C, 3 months at -20°C
235	Gastrin	S	1	14 days	5 hrs at RT, 1 month at -20°C CRITICAL FROZEN
236	GCT (glucose challenge test)	S	0.5	Daily	5 days at 2-8°C, 6 months at -20°C
237	GTT (glucose tolerance test)	S	0.5	Daily	5 days at 2-8°C, 6 months at -20°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C, -20°C	Fasting is recommended	Hemolysis, Icteric Lipemic	
at 2-8°C	Not recommended	Hemolysis, Frozen, clotting ,incorrect anticoagulant	
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Fasting is recommended. Avoid using OCP	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Fasting. The patient is not exposed to radioactive material few days before test .	Hemolysis, Icteric	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Fasting		1 fasting blood sample and 1 blood sample after 1 hr. ingestion 50 gr. oral glucose
at 2-8°C, -20°C	Fasting		1 fasting blood sample and 4-5 blood sample after ingestion oral glucose (adults:75 gr., children 1gr.Per kg body weight, maximum 75 gr)at 30,60,90,120,180 min.

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
238	Glucose	S, BF, U (R&24h) (see table 3)	0.3, 10	S: Daily U: 3 days	5 days at 2-8°C, 6 months at -20°C
239	Growth hormon	S	0.5	2 days	2 days at 2-8°C, 2 months at -20°C
240	H.pylori (IgA)	S	0.5	2 days	1 day at RT, 7 days at 2-8°C, 6 months at -20°C
241	H.pylori (IgG)	S	0.5	2 days	1 day at RT, 7 days at 2-8°C, 6 months at -20°C
242	H.pylori (IgM)	S	0.5	2 days	1 days at RT, 7 days at 2-8°C, 6 months at -20°C
243	H.pylori stool Ag	Stool	1 gr	4 days	2 days at 2-8°C, 1 month at -20°C
244	Haptoglobin	S	1	14 days	1 day at RT, 7 days at 2-8°C, 3 months at -20°C
245	HAV Ab (IgM)	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
246	HAV Ab (Total)	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C, -20°C	Fasting	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Fasting, Avoid using Clonidine	Hemolysis	
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Notice use of androgen & sulfasalazine drugs.	Hemolysis	
at 2-8°C, -20°C	Not recommended	Hemolysis	
at 2-8°C, -20°C	Not recommended	Hemolysis	

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
247	Hb A2	WB (E)	2	2 days	7 days at 2-8°C
248	Hb electrophoresis	WB (E)	4	2 days	7 days at 2-8°C
249	Hb F	WB (E)	4	2 days	7 days at 2-8°C
250	HbA1c	WB (E)	1	Daily	7 days at 2-8°C
251	HBc Ab (IgM)	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
252	HBc Ab (Total)	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
253	HBe Ab	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
254	HBe Ag	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
255	HBs Ab	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
256	HBsAg	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
257	HBV PCR (qualitative)	See table 2	—	10 days	See table 2
258	HBV PCR (quantitative)	See table 2	—	10 days	See table 2

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C	Not recommended	Hemolysis, Clotting, Frozen, Incorrect anticoagulant	
at 2-8°C	Not recommended	Hemolysis, Clotting ,Frozen, Incorrect anticoagulant	
at 2-8°C	Not recommended	Hemolysis, Clotting ,Frozen, Incorrect anticoagulant	
at 2-8°C	Not recommended	Hemolysis, Clotting ,Frozen, Incorrect anticoagulant	
at 2-8°C, -20°C	Not recommended	Hemolysis, Lipemic	
at 2-8°C, -20°C	Not recommended	Hemolysis, Lipemic	
at 2-8°C, -20°C	Not recommended	Hemolysis, Lipemic	
at 2-8°C, -20°C	Not recommended	Hemolysis, Lipemic	
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Not recommended	Hemolysis, Lipemic	
See table 2	Not recommended		
See table 2	Not recommended		

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
259	HCV genotyping PCR	See table 2	—	10 days	See table 2
260	HCV Ab	S	0.5	3 days	7 days at 2-8°C, 3 months at -20°C
261	HCV Ab (Riba/Western Blot)	S	1	30 days	7 days at 2-8°C, 3 months at -20°C
262	HCV PCR (qualitative)	See table 2	—	10 days	See table 2
263	HCV PCR (quantitative)	See table 2	—	10 days	See table 2
264	HDL cholesterol	S	0.3	Daily	24 hrs. at RT, 7 days at 2-8°C, 3 months at -20°C (dark place)
265	HDV Ab	S	0.5	Weekly	7 days at 2-8°C, 3 months at -20°C
266	HDV PCR	See table 2	—	15 days	See table 2
267	HE4	S	0.5	2 days	3 days at 2-8°C, 2 months at -20°C
268	HEV Ab	S	0.5	Weekly	7 days at 2-8°C, 3 months at -20°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric, Lipemic	
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric, Lipemic	
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Fasting. Avoid using clofibrate 7 days prior sample collection	Hemolysis, Icteric, Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric, Lipemic	
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric, Lipemic	
at 2-8°C, -20°C			
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric	

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
269	HIV Ab (1&2)	S, BF	0.5	3 days	5 days at 2-8°C, 2 months at -20°C
270	HIV Ab (Western Blot)	S	1	30 days	5 days at 2-8°C, 2 months at -20°C
271	HIV PCR	See table 2	—	15 days	See table 2
272	HLA B27	WB (D)	6	2 days	5 days at 2-8°C
273	HLA B5	WB (D)	6	2 days	5 days at 2-8°C
274	HLA B51	WB (D)	6	2 days	5 days at 2-8°C
275	HLA B52	WB (D)	6	2 days	5 days at 2-8°C
276	HLA B7	WB (D)	6	2 days	5 days at 2-8°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric, Lipemic	
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric, Lipemic	
at 2-8°C, -20°C	Not recommended		
at 2-8°C	Not recommended		
at 2-8°C	Not recommended	Hemolysis, Clotting, Frozen, Incorrect anticoagulant	
at 2-8°C	Not recommended	Hemolysis, Clotting, Frozen, Incorrect anticoagulant	
at 2-8°C	Not recommended	Hemolysis, Clotting, Frozen, Incorrect anticoagulant	
at 2-8°C	Not recommended	Hemolysis, Clotting, Frozen, Incorrect anticoagulant	

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
277	HLA B8	WB (D)	6	2 days	5 days at 2-8°C
278	HLA class I (ABC) (PCR)	WB (E)	6	15 days	5 days at 2-8°C
279	HLA class II (DQ) (PCR)	WB (E)	6	15 days	5 days at 2-8°C
280	HLA class II (DR) (PCR)	WB (E)	6	15 days	5 days at 2-8°C
281	Homocysteine	S, U(R)	0.5, 10	S: Weekly U: 10 days	3 days at 2-8°C, 3 months at -20°C
282	HPV PCR & Typing	See table 2	—	15 days	See table 2
283	HSV Ab (IgG)	S	0.5	2 days	24 hrs at RT, 7 days at 2-8°C, 3 months at -20°C
284	HSV Ab (IgM)	S	0.5	2 days	24 hrs at RT, 7 days at 2-8°C, 3 months at -20°C
285	HSV PCR	See table 2	—	4 days	See table 2

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C	Not recommended	Hemolysis, Clotting,Frozen, Incorrect anticoagulant	
at 2-8°C	Not recommended	Hemolysis, Clotting,Frozen, Incorrect anticoagulant	
at 2-8°C	Not recommended	Hemolysis, Clotting,Frozen, Incorrect anticoagulant	
at 2-8°C	Not recommended	Hemolysis, Clotting,Frozen, Incorrect anticoagulant	
at 2-8°C, -20°C	Fasting is recommended	Hemolysis, Lipemic	
at 2-8°C	Not recommended		
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Not recommended		

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
286	HTLV Ab (1&2)	S	0.5	2 days	Less than 5 days at 2-8°C for longer time at -20°C
287	HTLV PCR	See table 2	—	14 days	See table 2
288	Hydatid Ab (IgG)	S	0.5	Weekly	1 week at 2-8°C, 3 months at -20°C
289	Hydroxyindoleacetic acid (5HIAA)	U (24h) (see table 3)	10	14 days	7 days at 2-8°C 2 weeks at -20°C (dark place)

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Patient Prep : Patients should abstain, if possible, from medications, over-the-counter drugs, and herbal remedies for at least 72 hours prior to the test. Foods rich in serotonin. (avocados, bananas, eggplant, pineapple, plums, tomatoes, walnuts), chocolate, mango, date, grapefruit, melon, watermelon, kiwi, nuts, plantain and medications that may affect metabolism of serotonin. Imipramine, isoniazid, methyl dopa, ... must be avoided at least 72 hours before and during collection of urine.		Increased HIAA: Acetaminophen, acetanilide, caffeine, coumaric acid, diazepam (Valium®), ephedrine, fluorouracil, glycerol guaiacolate (Guaifenesin), melphalan (Alkeran®), mephensin, methamphetamine (Desoxyn), methocarbamol (Robaxin®), naproxen, nicotine, phenacetin, phenmetrazine, phenobarbital, phentolamine, rauwolfia, reserpine. Decreased HIAA : Aspirin, chlorpromazine (Thorazine), corticotropin, dihydroxyphenylacetic acid, ethanol, gentisic acid, homogentisic acid, hydrazine derivatives, imipramine (Tofranil®), isocarboxazid (Marplan), keto acids, levodopa, MAO inhibitors, methenamine, methyl dopa (Aldomet®), perchlorperazine, phenothiazines (Compazine®), promazine, promethazine (Mepergan®)

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
290	IgA	S	0.5	3 days	7 days at 2-8°C, 3 months -20°C
291	IgE	S	0.5	2 days	7 days at 2-8°C, 3 months -20°C
292	IgG	S	0.5	3 days	7 days at 2-8°C, 3 months -20°C
293	IgG index	S	1	By contact	7 days at 2-8°C, 3 months -20°C
294	IgG subclass 1	S	1	By contact	7 days at 2-8°C, 3 months -20°C
295	IgG subclass 2	S	1	By contact	7 days at 2-8°C, 3 months -20°C
296	IgG subclass 3	S	1	By contact	7 days at 2-8°C, 3 months -20°C
297	IgG subclass 4	S	1	By contact	7 days at 2-8°C, 3 months -20°C
298	IgM	S	0.3	3 days	7 days at 2-8°C, 3 months -20°C
299	IGF-1	S	0.5	2 days	7 days at 2-8°C, 3 months -20°C
300	Immunoelectrophoresis	S,U(24h) (see table 3)	1, 10	S: Weekly U: 20 days	S : 7 days at 2-8°C, 1 month at -20°C U(24h): 5 days at 2-8°C, 1 month at -70°C
301	Immunohistochemistry (IHC)	Biopsy,block	—	7 days	Minimum 1 year after fixation (tissue) or block preparation
302	Inhibin B	S	1	12 days	2 days at 2-8°C, 1 month -20°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C , -20°C	Not recommended	Hemolysis, Icteric,Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C , -20°C	Not recommended	Hemolysis, Icteric,Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C , -20°C	Not recommended	Hemolysis, Icteric,Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C , -20°C	Not recommended	Hemolysis, Icteric,Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C , -20°C	Fasting is recommended	Hemolysis, Icteric,Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C , -20°C	Fasting is recommended	Hemolysis, Icteric,Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C , -20°C	Fasting is recommended	Hemolysis, Icteric,Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C , -20°C	Fasting is recommended	Hemolysis, Icteric,Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C , -20°C	Not recommended	Hemolysis, Icteric,Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C , -20°C	Fasting is recommended	Hemolysis, Icteric,Lipemic	No preservative
at 2-8°C , -20°C	Not recommended		
at RT	Not recommended		
at 2-8°C , -20°C		Hemolysis, Lipemic	

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
303	Inhibin A	S	0.5	4 days	7 days at 2-8°C, 3 months at -20°C
304	Insulin	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
305	Iron	S	0.3	Daily	7 days at 2-8°C, 3 months at -20°C
306	Kala azar Ab (IgM)	S	1	12 days	5 days at 2-8°C, 3 months at -20°C
307	Kala azar Ab (Total)	S	1	12 days	5 days at 2-8°C, 3 months at -20°C
308	Lactate	PE	1	Daily	20 min at 2-8°C
309	Lamotrigin	S	1	12 days	7 days at 2-8°C, 3 months at -20°C
310	LDH	S, BF, CSF	0.5	Daily	2 days at RT, 4 days at 2-8°C, 1 month at -20°C
311	LDL cholesterol	S	0.5	Daily	5 days at RT, 1 month at -20°C (dark place)
312	LE cell	S	0.3	3 days	7 days at 2-8°C, 3 months at -20°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C, -20°C		Hemolysis, Icteric, Lipemic	
at 2-8°C, -20°C	Fasting is recommended. Abstain using of Cimetidine, Ethanol ,Chlorpropamide,... few days prior sample collection	Hemolysis, Icteric, Lipemic	Be separated quickly
at 2-8°C, -20°C	Fasting, Abstain iron compound 7 days prior sample collection and OCP, Sampling should be done preferably at 8-10 am.	Hemolysis, Icteric, Lipemic	avoid repeated freeze/thaw cycles, Patient's age sex
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Blood sampling without toumiquet. Abstain using of Cefotaxim.	Hemolysis, Icteric, Lipemic	separated prior 20 min
at 2-8°C, -20°C	Not recommended		
at 2-8°C	Abstain using of codeine, Clofibrate, ... prior few days sample collection.	Hemolysis, Icteric, Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Fasting	Hemolysis, Icteric, Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Fasting, Abstain iron compound 7 days prior sample collection and OCP, Sampling should be done preferably at 8-10 am		

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
313	Lead	WB (E)	2	14 days	5 days at RT, 7 days at -20°C
314	Leptospira Ab (IgG)	S, CSF	1	By contact	7 days at 2-8°C, 3 months at -20°C
315	Leptospira Ab (IgM)	S, CSF	1	By contact	7 days at 2-8°C, 3 months at -20°C
316	LH	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
317	Lipase	S	0.5	Daily	7 days at 2-8°C, 3 months at -20°C
318	Lipoprotein electrophoresis	S	1	21 days	10 days at 2-8°C
319	Listeria Ab (IgG)	S	0.3	Weekly	7 days at 2-8°C, 3 months at -20°C
320	Listeria Ab (IgM)	S	0.3	Weekly	7 days at 2-8°C, 3 months at -20°C
321	Lithium	S	1	Daily	1 day at 2-8°C, 3 months at -20°C
322	LKM Ab	S	0.3	2 days	7 days at 2-8°C, 3 months at -20°C
323	Lorazepam	S	1	10 days	7 days at 2-8°C, 3 months at -20°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C	Not recommended	Incorrect anticoagulant, Clotting	
at 2-8°C, -20°C			
at 2-8°C, -20°C			
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Fasting	Hemolysis, Icteric, Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C	Fasting		
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric, Lipemic Frozan	
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Specimens are commonly drawn approximately 12 hours after last dose of lithium taken. Notice using of diuretics, metronidazole, flouxetine, ... drugs.	Hemolysis	
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Not recommended		

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
324	Lpa	S	1	14 days	7 days at 2-8°C, 3 months at -20°C
325	Lupus anti Coagulant & DRVV screen	PC	1	15 days	4 hrs at RT or 2-8°C
326	Macroprolactin	S	1	2 days	2 days at 2-8°C, 3 months at -20°C
327	Magnesium	S, U(R&24h) (see table 3)	0.5,10	S: Daily U: 3 days	7 days at 2-8°C, 3 months at -20°C
328	Malaria parasite	WB (E)	1	Daily	Unlimited after fixation at RT
329	MCV Ab	S	0.5	Weekly	7 days at 2-8°C, 3 months at -20°C
330	MDA	S	1	By contact	5 days at 2-8°C, 3 months at -20°C
331	Measles Ab (IgG)	S	1	10 days	7 days at 2-8°C, 3 months at -20°C
332	Measles Ab (IgM)	S	1	10 days	7 days at 2-8°C, 3 months at -20°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C, -20°C	Not recommended		
at RT, 2-8°C	Not recommended	Hemolysis, Incorrect anticoagulant. Icteric & lipemic for non coagulation method	avoid repeated freeze/thaw cycles Be separated quickly /Two time centrifugation is preferred/to test LAC (DRVVT) is done
at 2-8°C, -20°C	Sample collecting 3 hrs after awake. Abstain sexual activity and stress 2 days before test. Avoid using estrogen, Insulin,... few days before test.	Hemolysis, Icteric, Lipemic	
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric, Lipemic	avoid repeated freeze/thaw cycles
at RT	Not recommended		
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric, Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Not recommended	Hemolysis,	
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric, Lipemic	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric, Lipemic	avoid repeated freeze/thaw cycles

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
333	Measles PCR	See table 2	—	14 days	See table 2
334	Mercury (Hg)	WB (E)	2	12 days	5 days at RT 7 days at 2-8°C
335	Metanephrines	U (24h) (See table 3)	10	Weekly	7 days at 2-8°C, 1 month at -20°C (dark place)
336	Mono test	S	0.5	Daily	7 days at 2-8°C, 3 months at -20°C
337	MPO Ab	S	0.3	2 days	7 days at 2-8°C, 3 months at -20°C
338	MSUD (DNPH)	U (R)	10	14 days	1 days at 2-8°C, 1 month at -20°C
339	MTX	S	1	14 days	1 day at 2-8°C, 3 months at -20°C (dark place)
340	Mucopolysaccharides (MPS)	U (R)	10	14 days	1 month at -20°C CRITICAL FROZEN

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
See table 2	See table 2	See table 2	See table 2
at RT, 2-8°C	Not recommended	Clotting, Incorrect anti coagulant	
at 2-8°C, -20°C	Abstain from emotional and mental stress, medications for 3 days prior to collection.		avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Not recommended	Hemolysis	
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Not recommended		
at -20°C	Not recommended		

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
341	Mumps Ab (IgG)	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
342	Mumps Ab (IgM)	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
343	Mumps PCR	See table 2	—	14 days	See table 2
344	Mycobacterium Ab (IgA)	S	1	By contact	7 days at 2-8°C, 3 months at -20°C
345	Mycobacterium Ab (IgG)	S	1	By contact	7 days at 2-8°C, 3 months at -20°C
346	Mycobacterium Ab (IgM)	S	1	By contact	7 days at 2-8°C, 3 months at -20°C
347	Mycobacterium PCR	See table 2	—	14 days	See table 2
348	Mycoplasma Pneumonia Ab (IgG)	S	1	12 days	7 days at 2-8°C, 3 months at -20°C
349	Mycoplasma Pneumonia Ab (IgM)	S	1	12 days	7 days at 2-8°C, 3 months at -20°C
350	Mycoplasma Pneumonia PCR	See table 2	—	14 days	See table 2

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C, -20°C	Not recommended	Hemolysis	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Not recommended	Hemolysis	avoid repeated freeze/thaw cycles
See table 2	See table 2	See table 2	See table 2
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Not recommended		
at 2-8°C	See table 2		
at 2-8°C, -20°C	Not recommended	Hemolysis	
at 2-8°C, -20°C	Not recommended	Hemolysis	
at 2-8°C, -20°C	Not recommended		

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
351	Nitrazepam	S	1	12 days	5 days at 2-8°C, 3 months at -20°C
352	Norepinephrine	U (24h) (See table 3)	10	14 days	7 days at 2-8°C, 3 months at -20°C (dark place)
353	Normetanephrine	U (24h) (See table 3) pH: 2-3	10	Weekly	7 days at 2-8°C, 1 month at -20°C (dark place)
354	NGAL	S, U (R)	0.5, 10	By contact	1 day at 2-8°C, 2 months at -20°C
355	NMO	S, CSF	1	Weekly	7 days at 2-8°C, 1 month at -20°C
356	Osmolality	S, U (R) (See table 3)	2, 10	Daily	7 days at 2-8°C, 3 months at -20°C
357	Osmotic fraqility	WB (E)	2.5	Daily	1 days at RT
358	Osteocalcin	S	1	14 days	3 days at 2-8°C, 2 months at -20°C
359	Oxalate	U (R&24h) (See table 3) pH: 1.5-2	10	Weekly	1 week at 2-8°C, 1 month at -20°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Abstain from emotional and mental stress, medications for 3. days prior to collection.		
at 2-8°C, -20°C	Abstain from emotional and mental stress, medications for 3. days prior to collection.		
at 2-8°C, -20°C			
at 2-8°C, -20°C		Hemolysis, Lipemic, Icteric	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Not recommended		
at RT	Fasting	Hemolysis, Frozen, Clotting Incorrect anticoagulant	
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Abstain ingestion of vitamin C, Orange, Lemon, Grapefruit, Tomatoes, Spinach, Strawberry,... 3 days prior to collection		

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
421	Oxazepam	S	1	12 days	7 days at 2-8°C, 3 months at -20°C
422	Pap smear (cytology)	Liquid bases.	—	5 days	7 days at RT.
423	Pap smear (cytology)	Prepared slides	—	5 days	Unlimited after fixation, at RT
424	Papp-A	S	1	5 days	7 days at 2-8°C, 3 months at -20°C
425	Parvovirus B19 Ab (IgG)	S	1	21 days	7 days at 2-8°C, 2 months at -20°C
426	Parvovirus B19 Ab (IgM)	S	1	21 days	7 days at 2-8°C, 2 months at -20°C
427	Parvovirus PCR	See table 2	—	16 days	See table 2
428	Phenobarbital	S	1	2 days	2 days at RT, 7 days at 2-8°C, 2 weeks at -20°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C, -20°C	Not recommended		
at RT	Abstain sexual intercourse before 3 days. Avoid using vaginal cream, ...before few days		
at RT	Abstain sexual intercourse before 3 days. Avoid using vaginal cream, ...before few days		
at 2-8°C, -20°C	Not recommended	Hemolysis, Lipemic, Icteric	
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Not recommended		
See table 2	Not recommended		
at 2-8°C, -20°C	Not recommended		

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
429	Phenylalanine	PE	1	12 days	Fresh plasma: 1 day at 2-8°C, 1 month at -20°C
430	Phenytoin	S	1	2 days	4 hrs at RT, 4 days at 2-8°C, 1 month at -20°C
431	Phosphorus	S, U	0.5,10	S: Daily U: 3 days	4 hrs at RT, 4 days at 2-8°C, 3 month at -20°C
432	PKU	U (R)	10	12 days	4 days at 2-8°C, 1 month at -20°C
433	Potassium	S, U(R&24h) (see table 3)	0.5,10	S: Daily U: 3 days	7 days at 2-8°C, 3 months at -20°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C, -20°C	Fasting	Hemolysis	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Abstain using salicylates before few days.		
at 2-8°C, -20°C	Fasting	Hemolysis, Lipemic, Icteric	avoid repeated freeze/thaw cycles
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Blood collecting without tourniquet	Hemolysis, Lipemic, Icteric	

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
434	Primidone	S	1	10 days	7 days at 2-8°C, 3 months at -20°C
435	Progesterone	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
436	Prolactin	S	0.5	2 days	2 days at 2-8°C, 3 months at -20°C
437	Procalcitonin	S	0.5	2 days	7 days at 2-8°C, 3 month at -20°C
438	Protein C	PC	1	15 days	2 hrs at RT, 1 month at -20°C CRITICAL FROZEN
439	Protein S	PC	1	15 days	2 hrs at RT, 1 month at -20°C CRITICAL FROZEN
440	Protein electrophoresis	S,U (24 hrs) (See table 3)	1,10	S: Weekly U: 14 days	7 days at 2-8°C, 1 month at -20°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C		Hemolysis, Lipemic, Icteric	avoid freeze/thaw cycle
at 2-8°C, -20°C	Sample collecting 3 hrs after awake. Abstain sexual activity and stress 2 days before test. Avoid using estrogen, Insulin,... few days before test.	Hemolysis, Lipemic, Icteric	
at 2-8°C, -20°C		Hemolysis, Lipemic, Icteric	
at -20°C	Abstain using Warfarine, coumadin, Estrogen, ... 10 days before test	Hemolysis, Icteric, lipemic Incorrect anticoagulant, Icteric, Lipemic for non coagulation method.	avoid repeated freeze/thaw cycles Be separated quickly/Two times centrifugation is prefered.
at -20°C	Abstain using Warfarine, coumadin, Estrogen, ... 10 days before test	Hemolysis, Icteric, lipemic Incorrect anticoagulant, Icteric, Lipemic for non coagulation method.	avoid repeated freeze/thaw cycles Be separated quickly/Two times centrifugation is prefered.
at 2-8°C, -20°C	Not recommended	Hemolysis	

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
441	Pro BNP-NT	S	1	12 days	6 days at 2-8°C, 3 months at -20°C
442	Protein total	S, BF, CSF, U	0.5,10	Others: Daily U: 3 days	7 days at 2-8°C, 3 months at -20°C
443	PSA	S	0.5	2 days	2 days at 2-8°C, 3 months at -20°C
444	PT (prothrombin time)	PC	1	Daily	2 hrs RT
445	PTH	S, PE	0.5	2 days	2 days at 2-8°C, 3 months at -20°C
446	Pyruvate	(By Contact) WB on cold perchloric acid (0.6 M)	1	14 days	After preparation 1 week at 2-8°C 3 months at -20°C
447	R.P.R	S	0.5	Daily	7 days at 2-8°C, 3 months at -20°C
448	Reducing substance	U (R)	10	Weekly	2 days at 2-8°C, 2 weeks at -20°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C, -20°C	Not recommended	Hemolysis	
at 2-8°C, -20°C	Not recommended	Hemolysis, Lipemic, Icteric	avoid freeze/thaw cycle
at 2-8°C, -20°C	Fasting is recommended. Abstain prostate exam, heavy exercise & ejaculation 2 days before test.	Hemolysis, Lipemic, Icteric	avoid freeze/thaw cycle
at RT, -20°C	Notice use Warfarine, Coumadin, Heroine,...	Hemolysis	Be separated quickly
at 2-8°C, -20°C	Fasting	Hemolysis, Lipemic, Icteric	
at 2-8°C, -20°C	Sample collecting with cold tube & syringe	Hemolysis	Be separated quickly
at 2-8°C, -20°C	Not recommended		avoid freeze/thaw cycle
at 2-8°C, -20°C	Not recommended		

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
449	Renin	S	1	2 days	4 weeks at -20°C CRITICAL FROZEN
	Plasma Renin Activity (PRA)	PE	1	7 days	
450	Reticulocyte	WB (E)	1	Daily	6 hrs at RT, 3 days at 2-8°C
451	RF (quantitative & qualitative)	S	1	Daily	7 days at 2-8°C, 3 months at -20°C
452	Rubella Ab (IgG)	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
453	Rubella Ab (IgM)	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
454	Rubella PCR	See table 2	—	14 days	See table 2
455	Scatch test	Perianal sample	2 slides	Daily	The same day must be tested
456	Selenium	S	1	14 days	2 days at RT, 7 days at 2-8°C, 3 months at -20°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at -20°C	Fasting recommended, Notice use blood pressure drugs. diuretics and collecting sample position (upright & supine) Normal sodium diet (100-200 mEq/day) for at least three days. Take no medications known to affect renin-aldosterone system.	Hemolysis, Lipemic, Icteric, Incorrect anticoagulant	avoid freeze/thaw cycle, the sample must be frozen immediately
at RT, 2-8°C	Not recommended	Hemolysis, Lipemic, Icteric, Clotting, Frozen, Incorrect anticoagulant	
at 2-8°C, -20°C	Not recommended	Hemolysis	
at 2-8°C, -20°C	Not recommended	Hemolysis, Lipemic, Icteric	
at 2-8°C, -20°C	Not recommended	Hemolysis, Lipemic, Icteric	
at 2-8°C, -20°C	Not recommended		
at RT	Not recommended		
at 2-8°C, -20°C	Not recommended		

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
457	Semen culture	Semen	—	2 Daily+4 days	The same time must be cultured
458	Semen fructose	Semen	1	12 days	1 week at -20°C CRITICAL FROZEN
459	SGOT (AST)	S	0.5	Daily	7 days at 2-8°C, 3 months at -20°C
460	SGPT (ALT)	S	0.5	Daily	7 days at 2-8°C, 3 months at -20°C
461	SHBG	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
462	Sickle prep	WB (E)	1	Daily	The Same Time must be tested
463	Sirolimus	WB (E)	1	2 days	5 days at 2-8°C
464	Sodium	S, U (R&24h) (see table 3)	0.5, 10	S: Daily U: 4 days	7 days at 2-8°C, 3 months at -20°C
465	Special stain	Slides or block	1 slide	Daily	at RT
466	Stone analysis	Urinary tract stone	—	Weekly	at RT
467	Stool Culture	Stool	1 gr	Daily+3 days	Unpreservative: 2 hrs at RT preservative 2 days at RT or 2-8°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
	Avoid using antibiotic		
at -20°C	Not recommended		
at 2-8°C, -20°C	Notice use hepatotoxic drugs	Hemolysis, Incorrect anticoagulant, Lipemic	avoid freeze/thaw cycle
at 2-8°C, -20°C	Notice use hepatotoxic drugs	Hemolysis, Incorrect anticoagulant, Lipemic	avoid freeze/thaw cycle
at 2-8°C, -20°C	Not recommended	Hemolysis, Lipemic, Icteric	avoid freeze/thaw cycle
at 2-8°C	Not recommended	Frozen, Clotting Incorrect anticoagulant, Hemolysis	
at 2-8°C	Not recommended	Hemolysis	
at 2-8°C, -20°C	Not recommended		
at RT			
at RT	Not recommended		
With preservative (Carry blair media) 2 days at RT or at 2-8°C	Avoid using antibiotic	Frozen sample	

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
468	Stool exam	Stool	1 gr	Daily	Bloody & mucosal sample the same time must be tested. Others: 3 days at RT, 1 month at 2-8°C, Added formalin 10%, stable 3 yrs.
469	Stool fat	Stool	0.5 gr	Daily	1 hr at RT, 4 days at 2-8°C, 2 weeks at -20°C
470	Stool occult blood	Stool	1 gr	Daily	1 hr at RT, 1 day at 2-8°C, 3 days at -20°C
471	Sugar chromatography	U (R)	10	20 days	4 days at 2-8°C, 1 month at -20°C
472	Sweat test	Sweat	200 mg	Daily	1 day at 2-8°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at RT, 2-8°C	Not recommended	Frozen sample Specimens containing barium, oil, or urine.	
at RT, 2-8°C	Not recommended		
at RT, 2-8°C, -20°C	Abstain ingestion of red meat, turnip, radish, kind of cabbages, Carrot, Fruits (Melon, watermelon, Cantaloupe,...), Citrus, Vitamin C, tart extracts, 3 days prior sample collection and Iron, Anti inflammatory non steroidal drugs such as brufen, naproxen, aspirin, Colchicine, Indomethacin, Cortisol, ...7 days prior sample collection		
at 2-8°C, -20°C	Not recommended		
at 2-8°C	Not recommended		

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
473	T3	S	0.5	Daily	1 day at RT, 7 days at 2-8°C, 1 month at -20°C
474	T3 up	S	0.5	Daily	1 day at RT, 7 days at 2-8°C, 3 months at -20°C
475	T4	S	0.5	Daily	1 day at RT, 7 days at 2-8°C, 1 month at -20°C
476	Tacrolimus	WB (E)	1	2 days	5 days at 2-8°C
477	Testosterone	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
478	Tetanus Ab (IgG)	S	1	30 days	7 days at 2-8°C, 3 months at -20°C
479	Thyroglobulin	S	0.5	2 days	2 days at 2-8°C, 3 months at -20°C
480	Thyroid peroxidase (TPO Ab)	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C, -20°C	Notice to hormonal treatment & gestation		
at 2-8°C, -20°C	Fasting	Hemolysis, Icteric, Lipemic	avoid freeze/thaw cycle
at 2-8°C, -20°C	Notice to hormonal treatment & gestation	Hemolysis, Icteric, Lipemic	
at 2-8°C	Not recommended	Hemolysis, Icteric, Lipemic	avoid freeze/thaw cycle
at 2-8°C, -20°C	The best time for sampling is 6-10 am. Fasting is recommended	Hemolysis, Clotting, Frozen, Incorrect anticoagulant	
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric, Lipemic	Be separated quickly. avoid freeze/thaw cycle
at 2-8°C, -20°C	Abstain from doing this test after FNA from thyroid, thyroid surgery and treatment with radioactive substance.	Hemolysis, Icteric, Lipemic	avoid freeze/thaw cycle
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric, Lipemic	Be separated until 20-30 min. avoid freeze/thaw

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
481	TIBC	S	1	Daily	7 days at 2-8°C, 3 months at -20°C
482	Tissue pathology	S	—	8 days	Unlimited after fixation at RT
483	Topamax (Topiramate)	S	1	14 days	7 days at 2-8°C, 3 months at -20°C
484	Toxocara Ab (IgG)	S	1	14 days	7 days at 2-8°C, 3 months at -20°C
485	Toxoplasma Ab (IgG)	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
486	Toxoplasma Ab (IgM)	S	0.5	2 days	7 days at 2-8°C, 3 months at -20°C
487	Toxoplasma PCR	See table 2	—	14 days	See table 2
488	Transferrin	S	0.5	Daily	7 days at 2-8°C, 3 months at -20°C
489	Transferrin saturation	S	0.5	Daily	7 days at 2-8°C, 3 months at -20°C
490	Triglycerides	S	0.5	Daily	7 days at 2-8°C, 3 months at -20°C
491	Troponin I	S	0.5	Daily	7 days at 2-8°C, Indefinitely at -20°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C, -20°C	Fasting	Hemolysis, Icteric,Lipemic	avoid freeze/thaw cycle
at RT	Not recommended		
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric,Lipemic	avoid freeze/thaw cycle
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric,Lipemic	
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric,Lipemic	
See table 2			
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric,Lipemic	avoid freeze/thaw cycle
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Fasting 12 hrs Abstain using alcohol before 3 days.	Hemolysis, Icteric	avoid freeze/thaw cycle
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric,Lipemic	

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
492	TSH	S	0.5	Daily	5 days at 2-8°C, 1 month at -20°C
493	TTG Ab (IgA)	S	0.3	2 days	7 days at 2-8°C, 3 months at -20°C
494	TTG Ab (IgG)	S	0.3	2 days	7 days at 2-8°C, 3 months at -20°C
495	Tuberculin test	Skin test	—	3 days	48-72 hrs after injection must be reported.
496	Uric acid	S, U	0.5,10	S: Daily U: 3 days	Serum: 7 days at 2-8°C, 3 months at -20°C Urine: 7 days at 2-8°C, 2 weeks at -20°C
497	Urine Culture	U (R)	10	3 days	Unpreservative (2 hrs at RT, 1 day at 2-8°C)
498	Urine analysis	U (R)	10	Daily	2 hrs at RT, 1 day at 2-8°C
499	Valproic acid	S	0.5	2 days	7 days at 2-8°C, 4 months at -20°C
500	VMA	U (24h) (see table 3)	10	Weekly	7 days at 2-8°C, with pH: 2-4, or 7 days at -20°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C, -20°C	Notice to hormonal & chemotherapy drugs	Hemolysis, Icteric, Lipemic	
at 2-8°C, -20°C	Not recommended	Hemolysis, Lipemic	avoid freeze/thaw cycle,
at 2-8°C, -20°C	Not recommended	Hemolysis, Lipemic	avoid freeze/thaw cycle,
	Not recommended		
at 2-8°C, -20°C	Abstain using salicylates before few days.	Hemolysis, Icteric, Lipemic	avoid freeze/thaw cycle,
24 hrs at 2-8°C	Avoid using antibiotic		
at 2-8°C	Not recommended		
at 2-8°C, -20°C	Not recommended		
at 2-8°C	Abstain using coffee, cacao, chocolate, blood pressure drugs, guanidine analogua drugs, mono amine oxidase inhibitors 3 days prior to urine collection		

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
501	VZV Ab (IgG)	S, CSF	0.5, 1	S: 2 days CSF: 12 days	7 days at 2-8°C, 3 months at -20°C
502	VZV Ab (IgM)	S, CSF	0.5, 1	S: 2 days CSF: 12 days	7 days at 2-8°C, 3 months at -20°C
503	VZV PCR	See table 2	—	14 days	See table 2
504	VDRL	S, BF, CSF	0.3	Daily	7 days at 2-8°C, 3 months at -20°C
505	Vitamin A	S	1	12 days	7 days at 2-8°C, 3 months at -20°C (dark place)
506	Vitamin B12 (cobalamin)	S	0.5	2 days	2 days at 2-8°C, 1 month at -20°C (dark place)
507	Vitamin D (25OH)	S	0.5	2 days	1 day at RT, 7 days at 2-8°C, 3 months at -20°C
508	Vitamin E	S	1	12 days	7 days at 2-8°C, 3 months at -20°C (dark place)
509	VLDL	S	—	Daily	
510	Von Willebrand Factor (VWF)	PC	1	14 days	6 hrs at RT, 14 days at -20°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric,Lipemic	
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric,Lipemic	
See table 2	Not recommended		
at 2-8°C, -20°C	Not recommended	Hemolysis	
at 2-8°C, -20°C	Fasting Sample collecting is done in cold tube, syringe, Abstain using alcohol 24 hrs before sampling.	Hemolysis, Icteric	Be separated in refrigerated centrifuge
at 2-8°C, -20°C	Fasting	Hemolysis, Icteric	avoid freeze/thaw cycle
at 2-8°C, -20°C	Fasting		
at 2-8°C, -20°C	Fasting, abstain from alcohol for 24 hrs		
at RT, -20°C			avoid freeze/thaw cycle

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
511	WBC	WB (E)	1	Daily	1 days at RT, 3 days at -20°C
512	WBC crossmatch	WB (D) for donor and serum for recipient	10, 1	2 days	2 hrs at 2-8°C
513	Widal agg Test	S	1	Daily	7 days at 2-8°C, 3 months at -20°C
514	Wound culture	Wound dis	—	Daily+7 days	The same time must be tested
515	Wright agg test	S	1	1 days	7 days at 2-8°C, 3 months at -20°C
516	Zinc	S	0.5	7 days	7 days at 2-8°C, 3 months at -20°C
517	Barbiturates (drug abuse)	S, BF U (R)	1, 10	12 days	7 days at 2-8°C, 2 months at -20°C
518	Carbamazepin	S	1	2 days	7 days at 2-8°C, 2 months at -20°C
519	Clobazam (drugs abuse)	By Contact	—	12 days	7 days at 2-8°C, 2 months at -20°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at RT, at 2-8°C	Not recommended	Hemolysis, Clotting, Frozan, Incorrect anticoagulant	
at 2-8°C	Not recommended	Hemolysis, Clotting, Frozan, Incorrect anticoagulant	
at 2-8°C, -20°C	Not recommended	Hemolysis, Icteric, Lipemic	
at RT	Avoid using antibiotic		
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Upon the advice of their physician, patients should be encouraged to discontinue nutritional supplements, vitamins minerals, and nonessential over-the-counter medications for one week prior to sample draw.	Hemolysis, Icteric, Lipemic	
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Not recommended		

Table 1

جدول شماره یک لیست آزمایشها

	Test name	Sample type	S.vol (ml)	Testing date	Storage
520	Gabapentin (drug abuse)	S, BF	1	12 days	7 days at 2-8°C, 2 months at -20°C
521	Keppra (Levetiracetam) (drug abuse)	S	1	12 days	7 days at 2-8°C, 2 months at -20°C
522	Lamotrigin (drug abuse)	S	1	12 days	7 days at 2-8°C, 2 months at -20°C
523	Mercury (drug abuse) (Hg)	WB	2	12 days	7 days at 2-8°C
524	Phenobarbital (drug abuse)	S	1	2 days	7 days at 2-8°C, 2 months at -20°C
525	Phenytoin (drug abuse)	S	1	2 days	7 days at 2-8°C, 2 months at -20°C
526	Warfarin (drug abuse)	WB	2	14 days	7 days at 2-8°C

Table 1 Continued

Transport	Preparation before sampling	Reject	Others
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Not recommended		
at 2-8°C	Not recommended		
at 2-8°C, -20°C	Not recommended		
at 2-8°C, -20°C	Not recommended		
at 2-8°C	Not recommended		

Table 2

جدول شماره دو (آزمایشهای مولکولی)

Test name	Test	Sample type
Adenovirus	Qualitative	Plasma (EDTA) Urine
BK viruse	Qualitative Quantitative	CSF, Plasma (EDTA) Urine
Brucella sp	Qualitative	Whole blood (EDTA), CSF, BF
CMV	Qualitative Quantitative	CSF, Plasma (EDTA) Urine, Tissue
EBV	Qualitative	CSF, Plasma (EDTA) Body fluids
Entrovirus	Qualitative	Whole blood (E) Plasma (E), CSF Body fluids, Urine

Table 2 Continued

Sample volume	Testing Date	Storage	Trabsport	Reject due to
1 ml	14 days	7 days 2-8°C, 1 month -20°C	2-8°C, -20°C	Incorrect anticoagulant (heparin)
1 ml	5 days	8 hrs RT, 3 day 2-8°C, 1m < -20°C	2-8°C (prefered)	Incorrect anticoagulant (heparin), Clot sample, Hemolysis :gross
1 ml	14 days	1 day RT, 3 day 2-8°C, 1m -20°C	2-8°C (prefered)	Incorrect anticoagulant (heparin), Clot sample, Hemolysis
Tissue 5 mm Others 1 ml Urine 10 ml For quantitative assay only WB (EDTA) is accepted	5 days	8 hrs RT, 3 days 2-8°C, 3 m -20°C	2-8°C, (prefered)	Incorrect anticoagulant (heparin)
Tissue 5 mm Others 1 ml	14 days	24 hrs RT, 5 days 2-8°C, 1 yr -20°C	2-8°C, (prefered)	Incorrect anticoagulant (heparin), Hemolysis, Clot sample (WB)
1 ml	14 days	1 hrs RT, 3 days 2-8°C, 3 m < -20°C	2-8°C, (prefered) or < -20°C	anticoagulant (heparin), Clot sample

Table 2

جدول شماره دو (آزمایشهای مولکولی)

Test name	Test	Sample type
HBV	Quantitative Qualitative	Plasma (EDTA)
HCV	Quantitative Qualitative Genotyping	Plasma (EDTA)
HDV	Qualitative	Plasma (EDTA)
HIV	Quantitative Qualitative	Plasma (EDTA), Serum, CSF, Body fluid
HPV	Qualitative Genotyping	Tissue, Thin prep
HSV	Qualitative	CSF, Plasma (EDTA)

Table 2 Continued

Sample volume	Testing Date	Storage	Trabsport	Reject due to
1 ml	10 days	3 days RT 1 w 2-8°C, 6 w < -20°C	2-8°C (prefered) or < -20°C	Incorrect anticoagulant (heparin)
1 ml	10 days	4 hrs RT, 2 days 2-8°C, 3 days -20°C 4 m -70°C	2-8°C (prefered)	Incorrect anticoagulant (heparin)
1 ml	20 days	6 hrs RT, 3 days 2-8°C, 1m < -70°C	2-8°C (prefered)	Incorrect anticoagulant (heparin)
1 ml	14 days	1 day RT, 3 days 2-8°C, 6 w < -20°C	2-8°C (prefered)	Incorrect anticoagulant (heparin)
Tissue 5 mm Others 1 ml	14 days	2 w RT, 3 w 2-8°C, 3 m -20°C	2-8°C (prefered)	Frozen, Formalin fixed tissue, Using anti fungal vaginal cream & contraceptive jel, Douching
1 ml	5 days	8 hrs at RT, 3 days 2-8°C, 3 m -20°C	2-8°C (prefered)	Incorrect anticoagulant (heparin)

Table 2

جدول شماره دو (آزمایشهای مولکولی)

Test name	Test	Sample type
HTLV	Qualitative	Whole blood (EDTA), CSF
Measeles	Qualitative	Plasma (EDTA), CSF Urine
Mumps	Qualitative	Plasma (EDTA), CSF Urine
Parvovirus	Qualitative	Plasma (EDTA), CSF, Bodyfluids, WB (EDTA), Paraffin block
Rubella	Qualitative	Plasma (EDTA), Body fluids, CSF,Urine, WB (EDTA)
Toxoplasma	Qualitative	Serum, Whole blood (EDTA), BF, CSF, Tissue
VZV	Qualitative	CSP, Serum, Whole blood (EDTA), Tissue

Table 2 Continued

Sample volume	Testing Date	Storage	Trabsport	Reject due to
1 ml	14 days	2 days RT, 2 w 2-8°C	2-8°C (prefered)	Incorrect anticoagulant (heparin) Frozen sample, Clotting
1 ml	14 days	1 day 2-8°C, 6 w -20°C	2-8°C (prefered)	Incorrect anticoagulant (heparin)
Fluids: 1 ml Urine 50 ml (4 days after symptom onset)	14 days	1 hrs RT, 1 day 2-8°C, 1 w -70°C	2-8°C	Incorrect anticoagulant (heparin)
Tissue 5 mm Others 1 ml	14 days	8 hrs RT, 3 days 2-8°C, 6 m -20°C Paraffin block at RT (unlimited)	2-8°C (prefered) Paraffin block at RT	Incorrect anticoagulant (heparin) Formalinized fluids. Lysed sample
1 ml	14 days	8 hrs RT, 1 day 2-8°C, 1 w < -20°C	2-8°C (prefered)	Incorrect anticoagulant (heparin)
Tissue 5 mm Others 1 ml	14 days	8 hrs RT, 3 days 2-8°C, 3 m -20°C	2-8°C (prefered)	Incorrect anticoagulant (heparin), Hemolysis, Clot sample (WB)
Tissue 5 mm Others 1 ml	14 days	8 hrs RT, 3 days 2-8°C, 3 m -20°C	2-8°C (prefered)	Incorrect anticoagulant (heparin)

Table 3

جدول شماره سه (نگهدارنده های ادرار)

Analyte	Refrigerate	Freeze	Hcl 6 mol/L	Acetic acid	Other additives
Aldosterone	✓	✓		✓	
Amino acids	✓	✓			Toluene
B2 microglobuline	✓	✓			
Bence J.P	✓	✓			
Calcium	✓	✓	✓		
Chloride	✓	✓			
Citrate	✓	✓			Toluene
Cortisol	✓	✓			
Copper	✓	✓			
Creatinine	✓	✓			
Cystine	✓	✓	✓		
Dopamine	✓	✓	✓		Protection from sunlight
Epinephrine	✓	✓	✓		Protection from sunlight
Na & K	✓	✓			
Glucose	✓	✓			
5 HIAA	✓	✓		✓	Protection from sunlight
Immunoelectrophoresis	✓	✓			
Mg	✓	✓	✓		
Metanephrines	✓	✓		✓	Protection from sunlight
Mercury	✓	✓			
Micro Albumin	✓	✓			
Normetanephrines	✓	✓		✓	Protection from sunlight
Norepinephrine	✓	✓	✓		Protection from sunlight
Oxalate	✓	✓			
Phosphorus	✓	✓	✓		
Protein total	✓	✓			
VMA	✓	✓		✓	
Urea	✓	✓			
Uric Acid	✓	✓			
Protein Electrophoresis	✓	✓			

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