

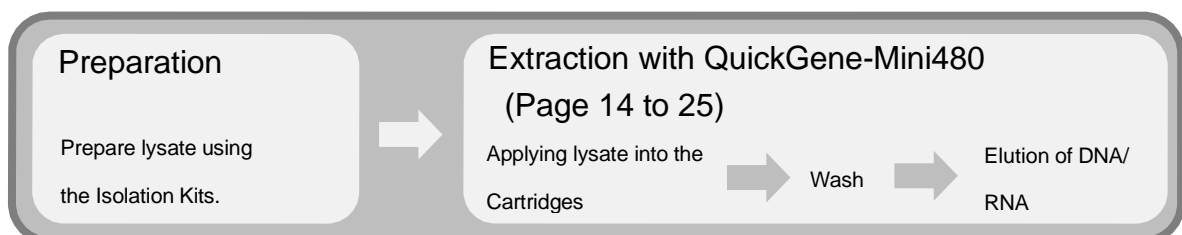
# Operation Manual

Nucleic Acid Isolation Device

# QuickGene-Mini480



## Extraction Flow





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# Introduction

Thank you for purchasing the Nucleic Acid Isolation Device QuickGene-Mini480 (hereafter, called "QuickGene-Mini480"). DNA or RNA can be easily extracted by using QuickGene-Mini480.

This guide contains important information regarding the safe use of QuickGene-Mini480. Read this manual carefully before using the device.

Keep this manual after reading it, for reference whenever necessary.

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## About Infectious Wastes

When handling or disposing of infectious materials, follow the laboratory guideline or the law regarding infectious waste to perform proper incineration, fusion, sterilization, and/or disinfection.

When you use a third party to dispose of it, outsource this work an operator licensed to handle medical waste subject to special control, and give them the manifest of the medical waste at the same time.



Universal biological  
hazard symbol

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# Notations

This manual contains important information regarding the safe use of QuickGene-Mini480.

Read this information carefully before using QuickGene-Mini480, and start operation.

The meanings of safety precaution marks are as follows:



**WARNING:**

**"WARNING"** indicates a dangerous condition that may lead to death or serious injury.



**BIOHAZARD:**

**"BIOHAZARD"** indicates exposure to a biological agent or condition that may be infectious or harmful.



**CAUTION:**

**"CAUTION"** indicates the possibility of danger that may lead to minor or moderate personal injury.

**"CAUTION"** may also indicate an accident of property damage.

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## **Important:**

**"Important"** shows the important notes for usage, as well as prohibited actions.

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## **Note:**

**"Note"** indicates the notes, procedures that should be obeyed, and supplementary information for use.

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# 引言

感谢您购买核酸分离设备QuickGene-Mini480（以下称为"QuickGene-Mini480"）。使用QuickGene-Mini480可轻松提取出DNA或RNA。

本手册中包含了有关QuickGene-Mini480安全操作的重要信息，请在使用设备之前仔细阅读。阅读完毕，请妥善保存本手册，以备必要时查阅。

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## 关于传染性废料

处理或弃置传染性材料时，请遵照有关传染性废弃物的试验室准则或相关法律进行正确的焚化、熔解、杀菌和 / 或消毒。

如果是交由第三方来完成上述作业，则应将其外包给对特控医疗垃圾有处理许可权的操作人员，并同时移交相应的货单。



通用生物危害性  
标记

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# 标志

本手册中包含了有关QuickGene-Mini480安全操作的重要信息。请在使用QuickGene-Mini480之前仔细阅读，然后再进行操作。

安全注意事项的含义如下所述：



**WARNING:**

**"WARNING"** 指示发生时可导致死亡或严重伤害的危险情况。



**BIOHAZARD:**

**"BIOHAZARD"** 指示暴露于生物制剂或是面对可能具有传染性或危害性的情况。



**CAUTION:**

**"CAUTION"** 指示发生时可导致轻微或中度人身伤害的潜在危险。

**"CAUTION"** 还可指示意外财产损失。

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## **Important:**

**"Important"** 指示重要的使用说明及严禁的操作。

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## **Note:**

**"Note"** 指示注解信息、应遵守的操作规程及补充性的使用信息。

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# Introduction

Merci d'avoir acheté le Dispositif d'isolation d'acide nucléique QuickGene-Mini480 (appelé ci-après "QuickGene-Mini480"). L'extraction de l'ADN ou l'ARN peut être facilement effectuée à l'aide du QuickGene-Mini480.

Ce guide contient des informations importantes concernant l'utilisation en toute sécurité du QuickGene-Mini480. Lisez attentivement ce manuel avant d'utiliser l'appareil.

Après lecture, conservez ce manuel pour pouvoir vous y référer ultérieurement si nécessaire.

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## A propos des déchets infectieux

Lorsque vous manipulez ou mettez au rebut des produits infectieux, veillez à respecter les directives du laboratoire ou la loi sur les déchets infectieux pour en effectuer l'incinération, la fusion, la stérilisation, et/ou la désinfection correctes.

Lorsqu'un tiers est chargé de la mise au rebut, veillez à la confier à une entreprise habilitée à traiter les produits médicaux sujets à contrôle spécifique et à fournir en même temps le manifeste des produits concernés.



Universal biological  
hazard symbol

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# Conventions

Ce manuel contient des informations importantes concernant l'utilisation en toute sécurité du QuickGene-Mini480.

Lisez attentivement ces informations avant d'utiliser et de faire fonctionner le QuickGene-Mini480.

Les significations des symboles de sécurité utilisés sont les suivantes :



**WARNING:**

**"WARNING" signale des conditions de dangerosité qui, si elles n'étaient pas évitées, pourraient entraîner la mort ou des blessures graves.**



**BIOHAZARD:**

**"BIOHAZARD" indique l'exposition à un agent biologique ou à une situation qui peut être infectieuse ou nocive.**



**CAUTION:**

**"CAUTION" signale un danger possible qui, s'il n'était pas évité, pourrait entraîner des blessures corporelles mineures ou légères.**

**"CAUTION" pourrait aussi indiquer un risque de dommage matériel.**

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## **Important:**

**"Important" signale des remarques importantes concernant l'utilisation et les actions interdites.**

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## **Note:**

**"Note" les remarques concernent les procédures à respecter, elles fournissent aussi des informations complémentaires.**

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# Einführung

Wir danken Ihnen für den Kauf des Geräts zur Nukleinsäureisolierung QuickGene-Mini480 (im Folgenden als „QuickGene-Mini80“ bezeichnet). Mit QuickGene-Mini480 können DNA und RNA leicht extrahiert werden. Diese Anleitung enthält wichtige Informationen zur sicheren Verwendung von QuickGene-Mini480. Lesen Sie die Anleitung vor der Verwendung des Geräts sorgfältig durch. Bewahren Sie diese Anleitung nach dem Lesen zum späteren Nachschlagen auf.

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## Hinweise zu infektiösen Abfällen

Befolgen Sie bei der Handhabung oder Entsorgung von infektiösen Abfällen die Laborrichtlinien sowie die geltenden Gesetze und Vorschriften, und führen Sie die Verbrennung, Einschmelzung, Sterilisation und/oder Desinfektion entsprechend durch. Wenn Sie die Entsorgung durch Dritte ausführen lassen, beauftragen Sie zugelassene Entsorgungsfirmen für medizinischen Sondermüll, und stellen Sie ihnen die relevanten Informationen zur Sondermüll-Abfallbehandlung zur Verfügung.



Universal biological  
hazard symbol

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# Warnhinweise

Diese Anleitung enthält wichtige Informationen zur sicheren Verwendung von QuickGene-Mini480.

Lesen Sie diese Informationen sorgfältig durch, bevor Sie QuickGene-Mini480 in Betrieb nehmen.

Die Bedeutung der verschiedenen Sicherheitshinweise wird im Folgenden erläutert:



**WARNING:**

„**WARNING**“ weist auf gefährliche Betriebsbedingungen hin, die zu ernsthaften Verletzungen oder Verletzungen mit Todesfolge führen können.



**BIOHAZARD:**

„**BIOHAZARD**“ kennzeichnet die Gefährdung durch biologische Agenzien oder Verhältnisse, die infektiös oder gesundheitsschädlich sein können.



**CAUTION:**

„**CAUTION**“ weist auf gefährliche Betriebsbedingungen hin, die zu leichten bis mittleren Verletzungen führen können.

„**CAUTION**“ kann darüber hinaus das Risiko einer Sachbeschädigung kennzeichnen.

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## Important:

„**Important**“ kennzeichnet wichtige Bedienungshinweise sowie zu unterlassende Vorgehensweisen.

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## Note:

„**Note**“ kennzeichnet Hinweise, Vorgehensweisen, die befolgt werden sollten, und zusätzliche Informationen zur Bedienung.

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# Safety Information

This chapter describes safety precautions.

For your safety and that of others, follow the guidelines provided in the following pages concerning the use of QuickGene-Mini480.

## About Mark

Check all descriptions with the  mark attached.

## About Instrument

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**WARNING:**

- **Ignoring the following notations may lead to fire or electric shock.**
  - In countries other than US and Canada, do not use the power cable attached for the US and Canadian models.
  - In countries other than US and Canada, use a power cable that meets your country's standard, or contact your local distributor.
  - Use the AC adapter provided.
  - Do not use the power cable attached for the US and Canadian models for other products.
  - Do not use QuickGene-Mini480 with voltage other than the voltage specified on the device.  
Do not overload the power outlet with too many devices.
  - Do not use QuickGene-Mini480 with a damaged power plug or a loose socket.
  - If there is dust on the prongs of the power plug or on the plug socket, remove it with a dry cloth.
  - When you disconnect the plug from the outlet, be sure to hold the power plug itself. Do not pull the power cable.
  - For maintenance, disconnect the power plug from the outlet.
  - Do not touch the power plug when you hear the crash of thunder.
- **Do not pour any liquid on QuickGene-Mini480. Do not place any objects containing liquid on QuickGene-Mini480. Doing so may cause a device failure, fire, or electric shock.**
- **In the event the device overheats, starts to smoke or smells strange, immediately unplug the power cable.**



**CAUTION:**

- **Never attempt to remodel QuickGene-Mini480 without the manufacturer's permission. Doing so may cause fire or electric shock.**
- **Do not place or drop objects on QuickGene-Mini480. Also refrain from bumping or knocking it, as doing so may cause a failure or malfunction.**
- **If any liquid materials are left inside the device, wipe it up a soft paper tissue, etc. Otherwise, QuickGene-Mini480 may be damaged.**
- **When replacing the pressure heads, be sure to wear gloves.**
- **If ethanol is spilled inside the device, immediately unplug the power cable.**
- **Repairs to QuickGene-Mini480 should only be performed by such agencies as are specifically authorized by KURABO INDUSTRIES LTD..**
- **Only original the KURABO INDUSTRIES LTD. replacement parts should be used.**
- **If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.**

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## About Isolation Kits

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Referred to as “kit/kits” hereafter in this section.



CAUTION:

- When handling any of the kits, refer to the respective handbook.
- Reagents in each kit should be handled by observing the safety information and precautions regarding the kit.
- Extraction should be performed in an appropriate laboratory or workplace.

Isolation kits	
For DNA	DNA whole blood kit
	DNA tissue kit
	Plasmid kit
For RNA	RNA tissue kit
	RNA cultured cell kit
	RNA cultured cell HC kit
	RNA blood cell kit

Noted: The kits are not supplied with QuickGene-Mini480. Select the desired kit(S) and order it(them) separately.

## About Reagents Not Included in the Kits

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CAUTION:

- When handling any reagent not included in the kits, observe the safety information and precautions of the reagent.
- Extraction should be performed in an appropriate laboratory or workplace. Some reagents should be handled in a draft chamber.

## About Cleaning/Washing Solution

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CAUTION:

- For handling any cleaning/washing solution for the QuickGene-Mini480 and accessories, observe the safety information and precautions regarding the solution.
- Keep ethanol away from fire. It is highly flammable.



BIOHAZARD :

- Always wear appropriate gloves, a mask, and safety goggles when cleaning/washing.

## About Samples

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BIOHAZARD :

- Always wear appropriate gloves, a mask, and safety goggles etc. when handling any infectious samples.

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# Product Use Limitations

- **The KURABO INDUSTRIES LTD. assumes no liability for results regardless of the application.**
- **It is the user's responsibility to validate the performance of the Isolation Kits and QuickGene-Mini480.**
- **QuickGene-Mini480 is a device for research and study only.**

When you use QuickGene-Mini480, read this manual thoroughly and follow the safety management regulations of your facilities (laboratory).

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# 安全信息

本章介绍安全注意事项。

为了您和他人的安全，请遵守下文中有使用QuickGene-Mini480方面的指导原则。

## 关于 标记

请确认所有附带  标记的说明。

## 关于设备



**WARNING:**

- **忽视以下标志可能导致火灾或电击。**
  - 在美国和加拿大以外的国家和地区，请勿使用美国和加拿大机型所附带的电源线。
  - 在美国和加拿大以外的国家和地区，请使用符合该地区标准的电源线，或与当地经销商联系。
  - 请使用附带的电源适配器。
  - 请勿将美国和加拿大机型附带的电源线用于其它产品。
  - 电压未满足设备指定值时，不要使用 QuickGene-Mini480。电源插座上不要插接过多设备，以免过载。
  - QuickGene-Mini480 不得使用破损的插头或松垮的插座。
  - 如果在电源插头片或插座上有灰尘，请用干布将其去除。
  - 从插座上拔下插头时，务必握住插头本身，切勿扯拽电源线。
  - 维护时，应从插座上拔下电源插头。
  - 打雷时不要触碰电源插头。
- **不要将任何液体泼溅到 QuickGene-Mini480 上，不要在 QuickGene-Mini480 上放置任何含有液体的物品。否则可能导致设备故障，或者引起火灾或电击。**
- **如果设备过热，开始冒烟或发出异味，应立即拔下电源线。**



**CAUTION:**

- **未经制造商允许，切勿试图改装 QuickGene-Mini480。否则可能引起火灾或电击。**
- **不要在 QuickGene-Mini480 上放置物品或者将物品丢到 QuickGene-Mini480 上，同时禁止撞击或敲打 QuickGene-Mini480，否则将可能导致其出现故障。**
  - 如果设备内附着有液体，请用柔软的纸巾等进行擦拭，否则将可能损坏设备。
- **更换压头时，请务必戴手套。**
- **如果有乙醇被洒到设备内部，应立即拔下电源线。**
- **只有 KURABO INDUSTRIES LTD.指定的授权机构才能承担本装置的维修事宜。**
- **只能使用 KURABO INDUSTRIES LTD.的原装更换部件。**
- **如果使用该设备时，没有按照经销商所指定的方式而造成设备故障或损坏，将可能使设备附带的保修失效。**

## 关于 QuickGene 专用试剂盒

在本章节以下部分中简称为“试剂盒”。



CAUTION:

- 使用各种试剂盒前，请仔细阅读试剂盒所附属的使用手册。
- 使用各种试剂盒前，请遵守关于该试剂盒的安全信息以及安全注意事项。
- 核酸提取操作，应在符合标准的相应实验室或工作场所进行。

专用核酸提取试剂盒	
提取 DNA	DNA 全血提取试剂盒
	DNA 组织提取试剂盒
	质粒提取试剂盒
提取 RNA	RNA 组织提取试剂盒
	RNA 培养细胞提取试剂盒
	RNA 培养细胞 HC 提取试剂盒
	RNA 血液细胞提取试剂盒

注意：以上试剂盒不包含在 QuickGene-Mini480 之中。请根据样品选择合适的试剂盒并单独订购。

## 关于 QuickGene 专用试剂盒中未包含的一般试剂



CAUTION:

- 使用专用试剂盒中未包含的其它试剂时，需遵守关于此类试剂的安全信息及注意事项。
- 试剂的各项操作应在相应的实验室或者工作场所进行。某些特殊试剂按照标准在通风环境下进行操作。

## 关于清洁、清洗用的洗涤剂



CAUTION:

- 关于清洁、清洗装置及其附属品时使用的洗涤剂，需遵守各洗涤剂的使用安全注意事项。
- 乙醇类等易燃试剂，使用时需远离火源。



BIOHAZARD :

- 清洁、清洗装置时，需穿戴合适的手套、面具以及护目镜。

## 关于样品



BIOHAZARD :

- 处理任何可能具有感染性的样品时，请务必按照相应规定穿戴合适的手套、面具和护目镜。

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# 使用上的限制

- 无论使用目的或应用情况如何， **KURABO INDUSTRIES LTD.** 不对结果承担任何责任。
- 对于各种样品的样品条件、性能的确认为，需使用者自行负责测试与验证。
- **QuickGene-Mini480** 为科研目的的设备。

使用 QuickGene-Mini480 时，

请仔细阅读本手册并遵守所在单位（实验室）的安全管理规程进行各项操作。



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# Informations concernant la sécurité

Ce chapitre décrit les précautions de sécurité.

Pour votre sécurité et celles des autres, veuillez suivre les indications fournies dans les pages suivantes et qui concernent l'utilisation du QuickGene-Mini480.

## A propos de Mark

Vérifiez toutes les descriptions de la marque  fournies.

## A propos des instruments

---



**WARNING :**

- **Si les recommandations suivantes ne sont pas prises en compte, un incendie ou une décharge électrique peut se produire.**

- En dehors des Etats-Unis et du Canada, n'utilisez pas le câble d'alimentation fourni avec les modèles vendus aux Etats-Unis et au Canada.
- En dehors des Etats-Unis et du Canada, utilisez un cordon d'alimentation conforme aux réglementations de votre pays ou contactez votre revendeur local.
- Utilisez l'adaptateur secteur fourni.
- N'utilisez pas sur d'autres produits le câble d'alimentation fourni avec les modèles vendus aux Etats-Unis et au Canada.
- N'utilisez pas le QuickGene-Mini480 avec un voltage différent de celui spécifié sur l'appareil. Ne branchez pas trop d'appareils sur la prise électrique.
- N'utilisez pas le QuickGene-Mini480 si la fiche est endommagée ou si la prise n'est pas solidement fixée.
- Si de la poussière recouvre les broches de la prise ou de la fiche, retirez-la à l'aide d'un chiffon sec.
- Lorsque vous retirez la fiche de la prise, faites-le en tenant fermement la prise. Ne tirez pas le câble.
- Pour tout entretien, débranchez la fiche de la prise murale.
- Ne touchez pas la fiche lorsque le tonnerre gronde.

- **Ne versez aucun liquide sur le QuickGene-Mini480. Ne placez aucun objet contenant du liquide sur le QuickGene-Mini480. Vous risquez, en le faisant, de provoquer une panne, un incendie ou une décharge électrique.**

- **En cas de surchauffe de l'appareil, ou s'il dégage de la fumée ou une odeur bizarre, débranchez immédiatement le câble d'alimentation.**



**CAUTION:**

- **N'essayez en aucun cas de modifier le QuickGene-Mini80 sans l'autorisation du fabricant. Cela pourrait entraîner un incendie ou une décharge électrique.**

- **Ne placez et ne faites tomber aucun objet sur le QuickGene-Mini480. De même, évitez de lui faire subir des chocs ou des coups, cela pourrait entraîner des défaillances et un mauvais fonctionnement du QuickGene-Mini480.**

- **Si un quelconque liquide s'introduit dans l'appareil, épongez-le avec une serviette en papier, etc. Sinon, le QuickGene-Mini480 pourrait être endommagé.**

- **Lorsque vous remplacez les têtes de pression, veillez à porter des gants.**

- **Si de l'éthanol est renversé à l'intérieur du dispositif, débranchez immédiatement le câble d'alimentation.**

- **Des réparations du QuickGene-Mini480 ne doivent être effectuées que par des agences spécifiquement autorisées par KURABO INDUSTRIES LTD.**

- **Seules les pièces détachées originales provenant de KURABO INDUSTRIES LTD. doivent être utilisées.**

- **Si ce matériel est utilisé de manière non spécifiée par le fabricant, la protection fournie par le matériel peut s'en trouver diminuée.**

---

## À propos des kits d'isolation

---

appelés ci-après “kit/kits” dans cette section.



CAUTION:

- Lorsque vous manipulez l'un de ces kits, consultez le manuel respectif.
- Les réactifs de chaque kit doivent être manipulés en respectant les consignes de sécurité et les précautions relatives au kit.
- L'extraction doit être effectuée dans un laboratoire ou un lieu approprié.

---

### Kits d'isolation

---

Pour l'ADN	Kit ADN sang total
	Kit ADN tissu
	Kit plasmides
Pour l'ARN	Kit ARN tissu
	Kit ARN cellules de culture
	Kit ARN cellules de culture humaines
	Kit ARN cellules sanguines

Note:

les kits ne sont pas fournis avec QuickGene-Mini480. Sélectionnez le ou les kits de votre choix et commandez-les séparément.

---

## À propos des réactifs non inclus dans les kits

---



CAUTION:

- Lorsque vous manipulez l'un des réactifs non inclus dans les kits, respectez les consignes de sécurité et les précautions relatives aux réactifs.
- L'extraction doit être effectuée dans un laboratoire ou un lieu approprié. Certains réactifs doivent être manipulés dans une enceinte pare-vent.

---

## À propos de la solution de nettoyage

---



CAUTION:

- Pour manipuler une solution de nettoyage du QuickGene-Mini480 et de ses accessoires, respectez les consignes de sécurité et les précautions relatives à la solution.
- Éloignez l'éthanol de toute source d'incendie. Il est hautement inflammable.



BIOHAZARD :

- Portez toujours des gants appropriés, un masque et des lunettes de protection lorsque vous procédez au nettoyage.

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## À propos des échantillons

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BIOHAZARD :

- Portez toujours au minimum des gants appropriés, un masque et des lunettes de protection lorsque vous manipulez des échantillons infectieux.

---

# Limitations d'utilisation du produit

- **KURABO INDUSTRIES LTD. n'assume aucune responsabilité de résultats quelle que soit l'application.**
- **Il est de la responsabilité de l'utilisateur de valider les performances des Kits d'isolation et QuickGene-Mini480.**
- **QuickGene-Mini480 est un appareil uniquement destiné à la recherche et l'étude.**

Lors de l'utilisation du QuickGene-Mini480, lisez d'abord ce manuel entièrement et respectez les règlements de gestion de risque de votre lieu de travail (laboratoire).


---

# Sicherheitsinformationen

In diesem Kapitel sind die Sicherheitsmaßnahmen beschrieben.

Um Verletzungen zu vermeiden, befolgen Sie bitte die Bedienungsrichtlinien für QuickGene-Mini480 auf den folgenden Seiten.

## Informationen zum -Zeichen

Prüfen Sie alle Beschreibungen, die mit dem  -Zeichen versehen sind.

## Informationen zum Gerät

---



WARNING:

- **Bei Missachtung der folgenden Warnhinweise besteht Brand- und Stromschlaggefahr.**
  - Verwenden Sie das beiliegende, nur für amerikanische und kanadische Modelle geeignete Netzkabel nicht außerhalb der USA und Kanada.
  - Verwenden Sie außerhalb der USA und Kanada ein Netzkabel, das Ihrer Landesnorm entspricht, oder wenden Sie sich an Ihren lokalen Händler.
  - Verwenden Sie das mitgelieferte Netzteil.
  - Verwenden Sie das beiliegende, nur für amerikanische und kanadische Modelle geeignete Netzkabel nicht für andere Produkte.
  - Betreiben Sie QuickGene-Mini480 ausschließlich mit der am Gerät angegebenen Netzspannung. Überlasten Sie die Steckdose nicht durch Anschließen von zu vielen Geräten.
  - Verwenden Sie QuickGene-Mini480 nicht mit einem beschädigten Netzstecker oder einer lockeren Steckdose.
  - Falls die Kontakte des Netzsteckers oder die Steckdose staubig sind, entfernen Sie den Staub mit einem trockenen Tuch.
  - Wenn Sie den Netzstecker aus der Steckdose ziehen, fassen Sie stets den Netzstecker direkt an. Ziehen Sie nicht am Netzkabel.
  - Ziehen Sie vor der Durchführung von Wartungsarbeiten den Netzstecker ab.
  - Fassen Sie den Netzstecker bei Gewitter nicht an.
- **Verschütten Sie keine Flüssigkeiten über QuickGene-Mini480. Stellen Sie keine Flüssigkeitsbehälter auf QuickGene-Mini480 ab. Dadurch könnte es zu einem Ausfall des Gerätes, zu einem Brand oder Stromschlag kommen.**
- **Wenn sich das Gerät überhitzt oder wenn Rauch oder ungewöhnliche Gerüche auftreten, ziehen Sie sofort das Netzkabel ab.**



**CAUTION:**

- **Versuchen Sie nicht, QuickGene-Mini480 ohne die Erlaubnis des Herstellers zu verändern. Dadurch könnte es zu einem Brand oder Stromschlag kommen.**
- **Legen Sie keine Gegenstände auf QuickGene-Mini480 ab, und lassen Sie keine Gegenstände darauf fallen. Setzen Sie es außerdem keinen Stößen oder ähnlichen Erschütterungen aus, da es dadurch zu einem Ausfall oder zu einer Fehlfunktion von QuickGene-Mini480 kommen könnte.**
- **Wenn im Gerät irgendwelche Flüssigkeiten zurückbleiben, wischen Sie es mit einem weichen Papiertuch aus. Andernfalls kann es zu einer Beschädigung von QuickGene-Mini480 kommen.**
- **Tragen Sie beim Auswechseln der Druckmessköpfe stets Handschuhe.**
- **Falls Ethanol in das Gerät verschüttet wird, ziehen Sie sofort das Netzkabel ab.**
- **Reparaturarbeiten an QuickGene-Mini480 sollten nur von Firmen ausgeführt werden, die von der KURABO INDUSTRIES LTD. ausdrücklich dafür autorisiert sind.**
- **Dabei sollten nur Original-Ersatzteile von der KURABO INDUSTRIES LTD. verwendet werden.**
- **Wenn das Gerät anders als auf die vom Hersteller vorgesehene Weise verwendet wird, können die Sicherheitseigenschaften des Geräts beeinträchtigt werden.**

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## Über Isolations-Kits

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Nachstehend als „Kit/Kits“ bezeichnet.



CAUTION:

- Nähere Informationen zum Umgang mit den Kits finden Sie im entsprechenden Handbuch.
- Der Umgang mit den Reagenzien in den Kits sollte unter Befolgung der Sicherheitshinweise und Vorsichtsmaßnahmen des jeweiligen Kits erfolgen.
- Die Extraktion sollte in einem geeigneten Laboratorium oder einem entsprechendem Arbeitsplatz durchgeführt werden.

Isolations-Kits	
Für DNA	DNA Vollblut Kit
	DNA Gewebe Kit
	Plasmid Kit
Für RNA	RNA Gewebe Kit
	RNA Kulturzellen Kit
	RNA Kulturzellen HC Kit
	RNA Blutzellen Kit

Note:

Die Kits werden nicht mit QuickGene-Mini480 ausgeliefert. Wählen Sie die gewünschten Kits aus und bestellen Sie sie getrennt.

## Über nicht in den Kits enthaltene Reagenzien

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CAUTION:

- Beim Umgang mit einem Reagens, das nicht in den Kits enthalten ist, sind die Sicherheitsinformationen und Vorsichtsmaßnahmen des jeweiligen Reagens zu befolgen.
- Die Extraktion sollte in einem geeigneten Laboratorium oder an einem entsprechenden Arbeitsplatz durchgeführt werden. Mit einigen Reagenzien sollte in einer Abzugskammer gearbeitet werden.

## Über Reinigungs-/Waschlösung

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CAUTION:

- Bei der Anwendung von Reinigungs-/Waschlösungen beim QuickGene-Mini480 und den Zubehöerteilen sind die Sicherheitsinformationen und Vorsichtsmaßnahmen für die Lösung zu beachten.
- Halten Sie Ethanol fern von Feuer. Es ist leicht entflammbar.



BIOHAZARD :

- Beim Reinigen/Waschen immer geeignete Handschuhe, einen Mundschutz und eine Schutzbrille tragen.

## Über die Proben

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BIOHAZARD :

- Beim Umgang mit infektiösen Proben immer geeignete Handschuhe, einen Mundschutz und eine Schutzbrille tragen.

---

# Einschränkungen der Produktverwendung

- **Die KURABO INDUSTRIES LTD. übernimmt keine Haftung für die Ergebnisse, unabhängig von der Anwendung.**
- **Es liegt in der Verantwortung des Anwenders, die Eignung des Isolations-Kits und QuickGene-Mini480 zu überprüfen.**
- **QuickGene-Mini480 ist nur für den Einsatz in Forschung und Lehre vorgesehen.**

Wenn Sie QuickGene-Mini480 einsetzen, lesen Sie diese Anleitung sorgfältig durch, und befolgen Sie die Sicherheitsbestimmungen Ihrer Einrichtung (Labor).





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This chapter explains how to set up QuickGene-Mini480.

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2

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This chapter explains how to maintain QuickGene-Mini480.

## 4 Troubleshooting

4

This chapter describes the procedures that should be taken when you suspect device failures.

## 5 Main Specifications

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This chapter describes the basic specifications of QuickGene-Mini480.

## Appendix A

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This chapter describes after-sales services and points to note for transportation.



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- 1.2 Checking QuickGene-Mini480 and Accessories
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## Appendix A

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- A.1 Replacement/ Optional Parts
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- A.6 Disposal of Device



# 1 Setting Up

This chapter explains how to set up QuickGene-Mini480.

1

## 1.1 Operating Environment/Use Conditions

This section explains the operating environment and use conditions of QuickGene-Mini480.

### ■ Operating environment



WARNING:

- Do not use QuickGene-Mini480 to a location where it can be splashed with water. It may cause a device failure, fire, or electric shock.
- When relocating QuickGene-Mini480, disconnect the plug from the outlet first. If the power cable is damaged, this may cause a device failure, fire, injury, or electric shock.

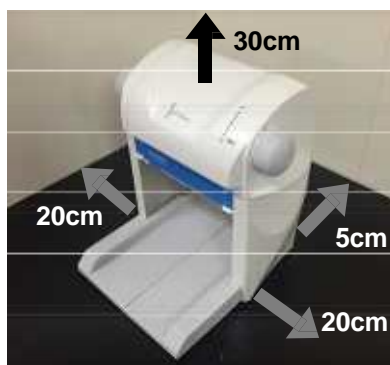


CAUTION:

- Do not use QuickGene-Mini480 in an unstable place such as a slanted surface or a place subject to vibrations. It may cause injury or device failure.
- Do not use QuickGene-Mini480 in direct sunlight or close to a heating device. It may shorten the life of QuickGene-Mini480, or cause a trouble.

For correct and safe use of QuickGene-Mini480, use it in a location that meets the following conditions:

- The space shown in the following figure must be allocated.



- A location where power can be provided (This is a Class II device. Be sure to use the attached AC adapter.)
- A location where the temperature is 15 to 30°C, and humidity is 30 to 80%RH (non-condensing)
- A location that is flat and stable, with no vibration
- A location away from direct sunlight (Block the sunlight by closing curtains or blinds as necessary.)
- A location which is well-ventilated and not dusty
- A location where the temperature does not go up and down suddenly (Warming a cold room suddenly or moving QuickGene-Mini480 from a room with low temperature to a

- warm room may cause condensation inside the device, resulting in abnormal extraction.)
- A location where the temperature and humidity are kept within the specified range (far from water taps, water heaters, humidifiers, air-conditioners and heaters)
  - A location far from objects with generates strong magnetic fields (motors, transformers, TV, audio speakers, magnets, etc.) (Bringing QuickGene-Mini480 close to any type of magnetic field may cause a malfunction.)







### ■ Use conditions

Items		Specifications
Temperature (°C)	During operation	15~30
	During downtime	15~30
Humidity (%)	During operation	30~80
	During downtime	10~80
Max. wet bulb temperature (°C)	During operation	29 (non-condensing)
	During downtime	29 (non-condensing)
Temperature gradient (°C / Hr)		12 or less (non-condensing)
Humidity gradient (% / day)		30 or less (non-condensing)
Altitude, operating (m)		1600 or less

## 1.2 Checking QuickGene-Mini480 and Accessories

Check that the following are included in the package.

Contact the local representative if you notice any missing part(s).

<input type="checkbox"/> QuickGene-Mini480	<input type="checkbox"/> Operation Manual	<input type="checkbox"/> AC Adapter
		
<input type="checkbox"/> Power Cable	<input type="checkbox"/> Cartridge Holder	<input type="checkbox"/> Waste Tube Holder
		
<input type="checkbox"/> Collection Tube Holder	<input type="checkbox"/> Pressure Seal Plate (×3)	<input type="checkbox"/> Separator
		



CAUTION:

**Note:** Use an appropriate power cable by following the descriptions below.

**US/Canada:** Use the power cable included in the package.

**Other countries:** The power cable is not included in the package. Prepare the power cable that meets your country's standard.

The specification of the power cable for QuickGene-Mini480 is as follows.

**100-120V area**

**Power Voltage: 100 to 120 V**

## 1 Setting Up

---

Requirements for the plug/connector: AC 125 V 3 A

Requirements for the cable: SJT 2 x 18 AWG 60°C

200-240V area

Power Voltage: 200 to 240 V

Requirements for the plug/connector: AC 250 V 3 A

Requirements for the cable: CENELEC 2 x 0.75 mm<sup>2</sup> 70°C

---

1

### 1.3 Remove the Packing Materials

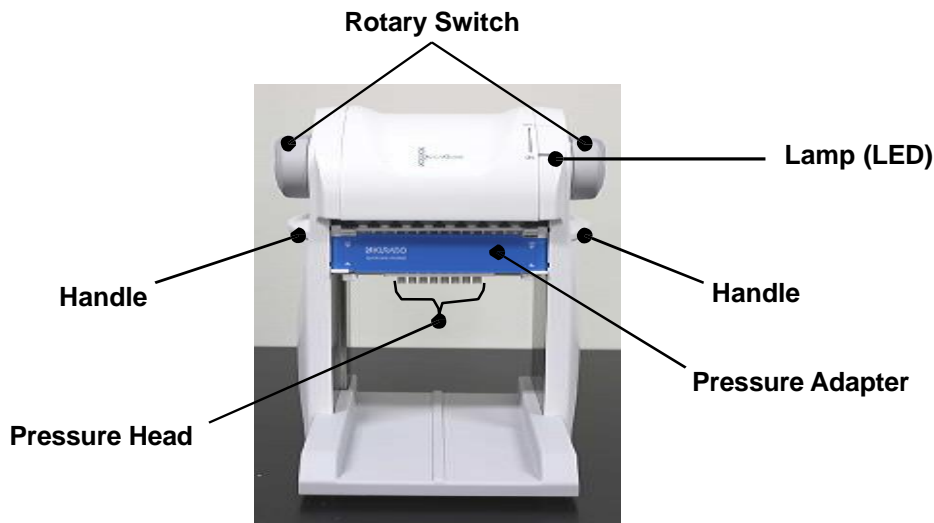
Refer to the attached file.



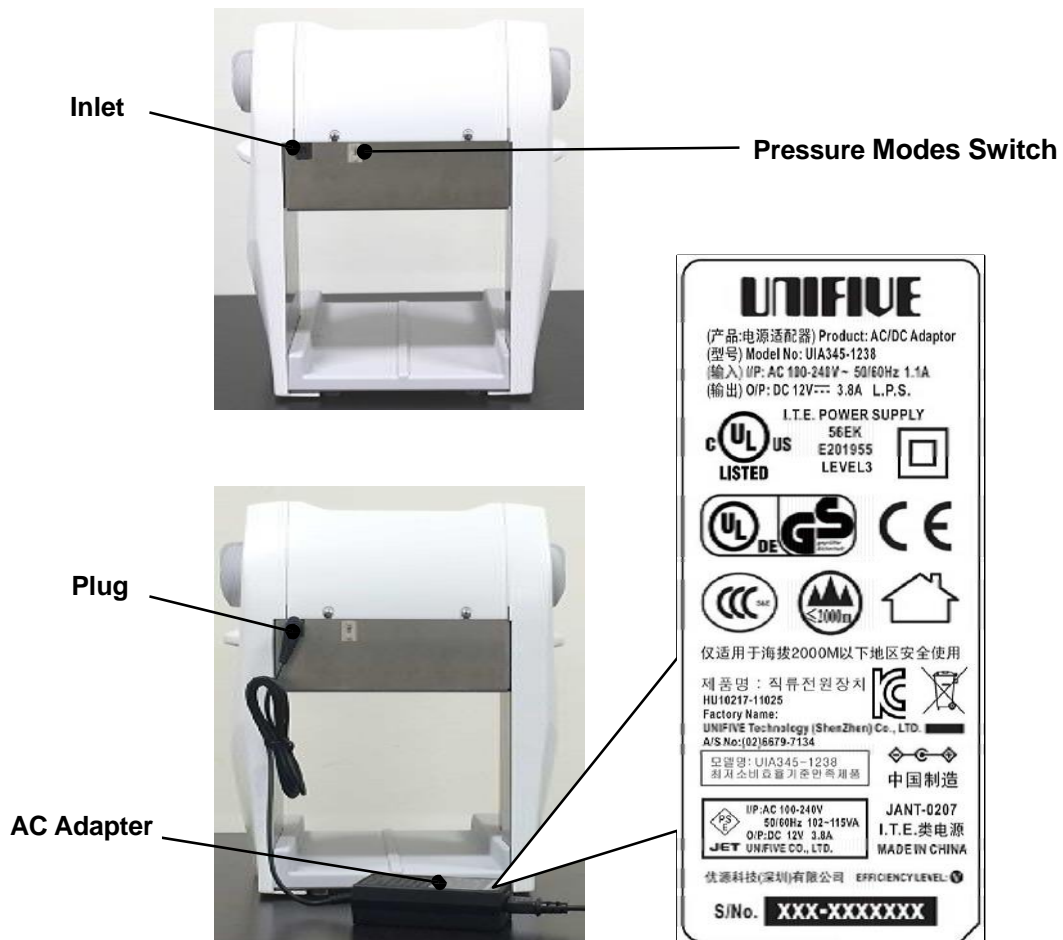
## 1.4 Overall view

This section explains the name and function of each part in QuickGene-Mini480

### ■ Front view



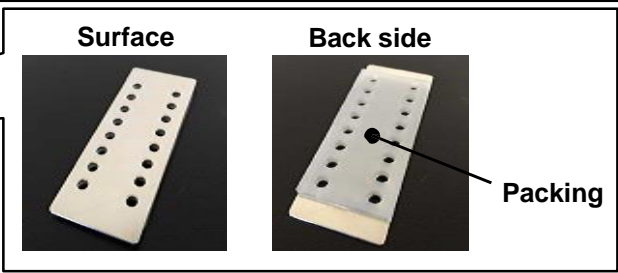
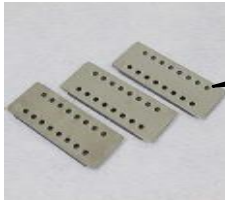
### ■ Rear view



# 1 Setting Up

1

## ■ Pressure Seal Plate



## ■ Cartridge Holder



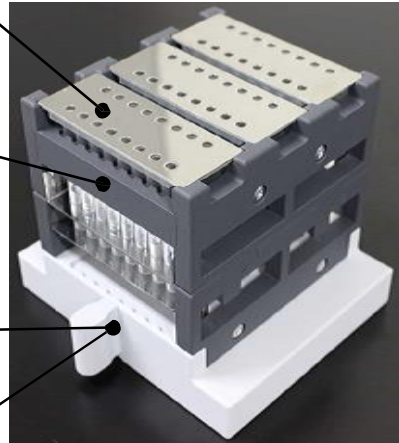
## ■ Waste Tube Holder



## ■ Collection Tube Holder

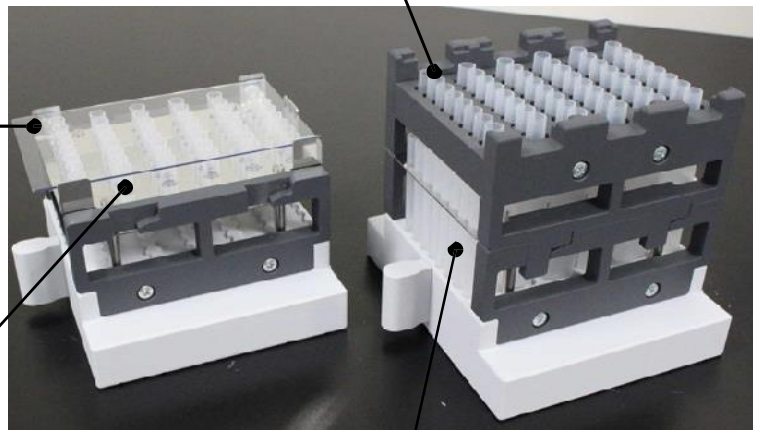


## ■ Separator



## Cartridge (CA)

(Not supplied with QuickGene- Mini480)



## Collection Tube (CT)

(Not supplied with QuickGene- Mini480)



## Waste Tube (WT)

(Not supplied with QuickGene- Mini480)

## Label

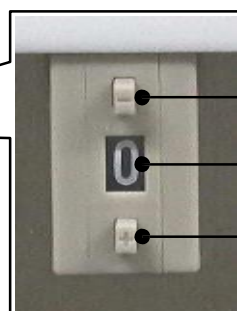
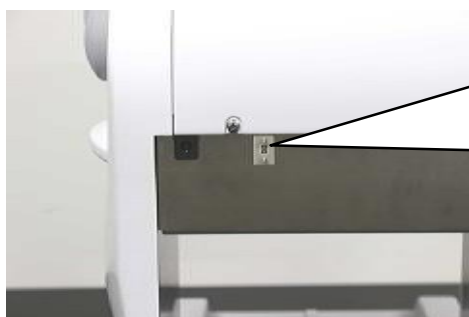


ON/OFF Mark

1

Name	Description
ON / OFF Mark	<p><b>ON Mark:</b> Rotating the switch to the ON Mark starts pressure application.</p> <p><b>OFF Mark:</b> Rotating the switch to the OFF Mark finishes pressure application.</p>

## Pressure Control Switch



– Switch

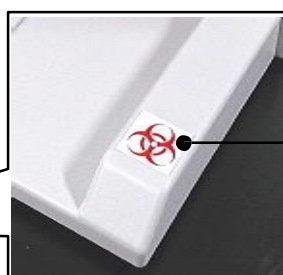
Pressure value

+ Switch

Name	Description
– Switch	Press to lower the pressure value
+ Switch	press to raise the pressure value
Pressure value	About the setting range, refer to [1.5 Pressure Parameters]

## Biohazard Risk Symbol Label




This caution symbol indicates a possible biohazard risk from patient specimen contamination.



Biohazard Symbol Label

## 1.5 Basic Functions

The following describes the main components of QuickGene-Mini480.

Component	Function
<p><b>Main Unit</b></p> <p style="text-align: center;">Rotary Switch</p> 	<p>Start/stop putting pressurized air into Cartridges by operating the Rotary Switch. Pressure application automatically stops in about one minute. (Pressure value can be changed using Pressure Control Switch)</p> <p>Operating state is indicated by the lamp (LED). When the power is turned on, the lamp (LED) lights. During pressure application, the lamp (LED) blinks.</p> <p>The main unit contains a pump for pressurizing air, a sensor for detecting start/stop of pressure application, and a circuit for controlling the duration of pressure application.</p>
<p><b>Pressure Unit</b></p> 	<p>Put pressurized air into the Cartridges through the pressure heads. When the rotary switch is turned on, the pressure heads move down to the Pressure Seal Plate to put pressurized air into Cartridges.</p>
<p><b>Holder Unit</b></p> 	<p>The holder unit is comprised of the Cartridge Holder, Waste Tube Holder, Collection Tube Holder, and 3 pcs of Pressure Seal Plate. Lysate/Wash Buffer/Elution Buffer put in a Cartridge passes through the filter in the Cartridge by pressurized air and filtered solution drops into the Waste Tube or Collection Tube.</p> <hr/> <p><b>Note: Pressure application of lysate and wash, and that of elution operation are switched by moving the Cartridge Holder from Waste Tube Holder to Collection Tube Holder manually.</b></p> <hr/>

## ■ Lamp (LED) indication information

The following describes the lamp (LED) indications.

Lamp (LED) indication	Description
<b>ON</b>	Indicates that the power is ON and pressure application can be performed.
<b>Blink</b>	Indicates that pressure application is in progress.  <b>Note: When pressure application is completed, the lamp (LED) indication returns to the ON state.</b>

1

## ■ Pressure Parameters

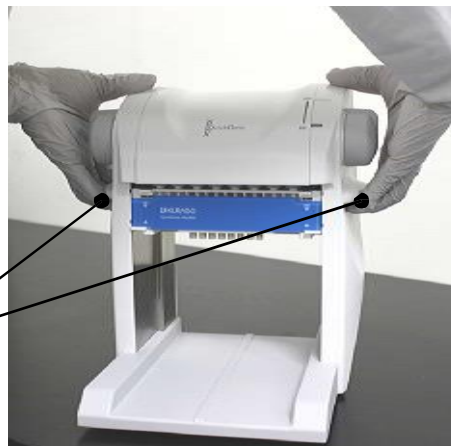
Pressure parameter can be changed by the Pressure Control Switch.

Pressure value	
0	Pressure time: 40sec / no buzzer sound
1	Pressure time: 50sec / no buzzer sound
2	Pressure time: 60sec / no buzzer sound
3 (Initial setting value)	Pressure time: 70sec / no buzzer sound
4	Pressure time: 80sec / no buzzer sound
5	Pressure time: 40sec / buzzer after pressure processing
6	Pressure time: 50sec / buzzer after pressure processing
7	Pressure time: 60sec / buzzer after pressure processing
8	Pressure time: 70sec / buzzer after pressure processing
9	Pressure time: 80sec / buzzer after pressure processing

## 1.6 Precautions on Transportation

When transporting QuickGene-Mini480, note the following points.

- Be sure to hold the Handles.
- Do not hold the Rotary Switch.
- Do not touch Pressure Head section.
- Remove all the holders before transportation.



Be sure to hold the handles.

## 1.7 Precautions on Storage

When storing QuickGene-Mini480, note the following points.

- Do not keep it with the Rotary Switch adjusted to the position of turning on with Cartridges set in the Cartridge Holder.
- When the outside of the QuickGene-Mini480 is heavily soiled, clean it.
- If the machine will not be used for a long time, clean then cover it before storing.

## 2 Operation

This chapter explains how to operate QuickGene-Mini480 and shows the flow of extraction.



**BIOHAZARD:**

Always wear appropriate gloves, a mask, and safety goggles during any biohazardous operations in extraction process. Even when touching the device after any operation with a biohazard risk, wear appropriate gloves and a mask since the device may be contaminated.

**Important:** Before starting extraction, put on appropriate gloves, a mask, and safety goggles if required by the operation. In the operation from preparing samples to extraction completion, be careful not to contaminate the samples with sweat, saliva, etc.

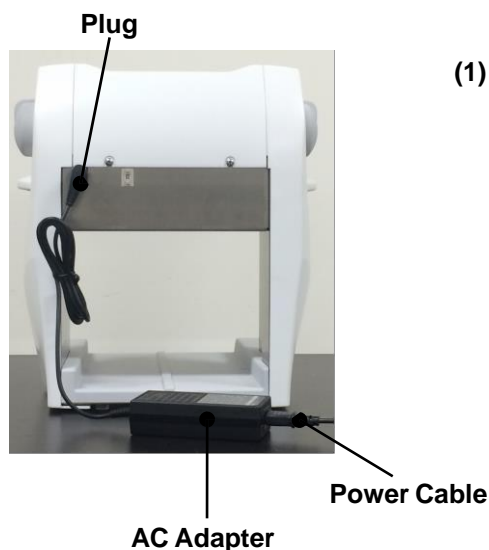
2

### 2.1 Turning the power ON and OFF

This section explains how to turn the power of QuickGene-Mini480 on and off.

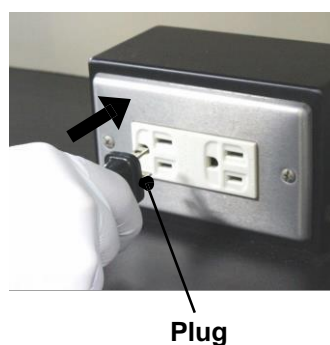
**Note:** Since QuickGene-Mini480 is not equipped with a power switch, the power is turned on/off by connecting/disconnecting the power cable.

#### ■ Turning on the power



- (1) Make sure that the AC adapter and power cable are connected securely, and the plug of the AC adapter is securely connected to the QuickGene-Mini480.

**Note:** QuickGene-Mini480 is a Class II device. Be sure to use the attached AC adapter.



- (2) Connect the plug of the power cable to the outlet. The QuickGene-Mini480 turns on and the lamp (LED) lights

■ Turning off the power



Plug

- (1) Disconnect the plug of the power cable from the outlet.

The lamp (LED) turns off, then the QuickGene-Mini480 turns off.

---

**Note:**

Do not place any objects near the outlet so that the plug of the power cable can be disconnected immediately in case of emergency.

---



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## 2.2 Preparation

The following preparations are required for extraction operation.

### ■ Items to be prepared

- Gloves
- Mask
- Safety Goggles
- Collection Tubes (CT) \*
- Waste Tubes (WT) \*
- Cartridges (CA) \*
- Buffer (Wash Buffer, Elution Buffer) \*
- Lysate (Samples)

For the preparation of samples, refer to the handbook of each kit.

\* : Provided with QuickGene Isolation Kits.

### ■ Preparation of lysate

Make lysate using the specified kit for each target samples.

For details, refer to the handbook of the Isolation Kits.

## 2.3 Extraction

This section explains extraction procedure including before and after extraction operations.

Be sure to perform extraction in the following order.

---

**Note: Use the provided Cartridges, Waste Tubes and Collection Tubes in the Isolation Kit.**

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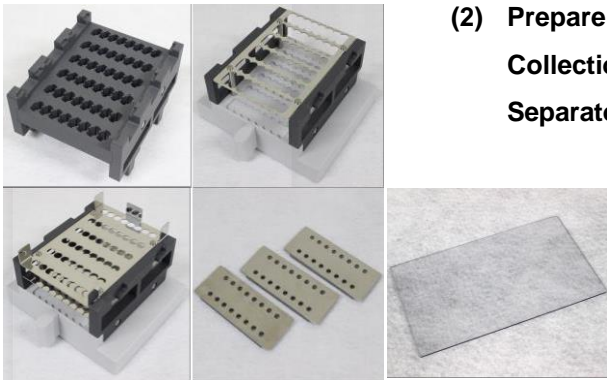
### ■ Before Extraction Operation

2



Lamp (LED): ON

- (1) Turn on the power by connecting the power cable and then make sure the lamp (LED) lights.



- (2) Prepare the Cartridge Holder, Waste Tube Holder, Collection Tube Holder, Pressure Seal Plate and Separator.

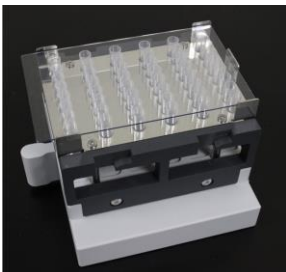


- (3) Set the Collection Tubes into the Collection Tube Holder in order. Cover it using Separator.

---

**Important:**

Keep the Holder Handle of the Collection Tube Holder toward the front side when setting the Collection Tubes as shown in below figure.



---

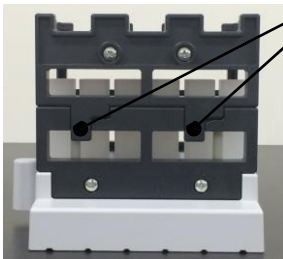
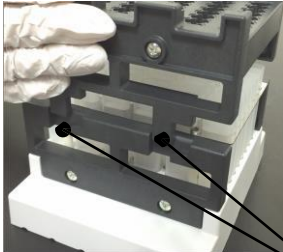
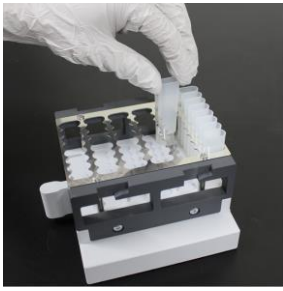
**Note:**

There's no front/back side of Separator.

---

Holder Handle





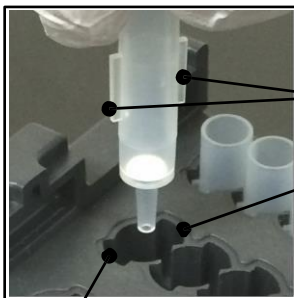
(4) Set the Waste Tubes into the Waste Tube Holder in order. Then insert the Cartridge Holder into the correct position of the Waste Tube Holder.

**Important:**

- Make sure the bulges of Cartridge Holder are inserted into the side notches of the Waste Tube Holder.
- Keep the Holder Handle of the Collection Tube Holder toward the front side when setting the Collection Tubes as shown in below figure.

2

Insert the bottom bulges of Cartridge Holder into the side notches of the Waste Tube Holder.



Notch

Taps

Notch

(5) Set the Cartridges into the Cartridge Tube Holder in order.

**Important :**

Align the taps on the Cartridge with the grooves into the notch of cartridge holder and then push into the bottom position.

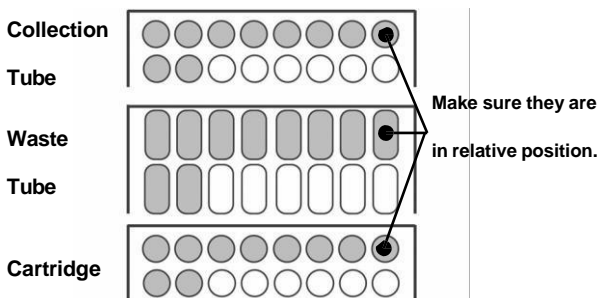
If the Cartridge is not inserted in correct position, it may cause the pressure leakage.



(6) Check the location of Waste tubes, Collection tubes and Cartridges.

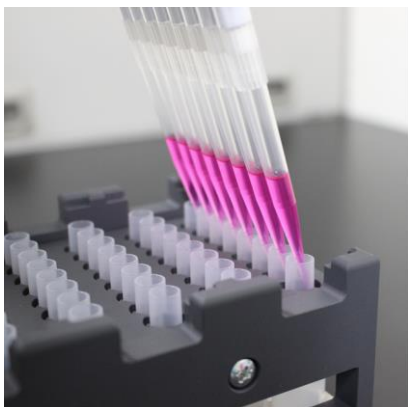
**Important :**

If their position does not correspond, Buffer and/or lysate may spill. This results in an extraction failure, and Buffer and/or lysate becoming waste.



## ■ Extraction

2



### <Applying Lysate to Cartridges>

#### (1) Apply lysate to each Cartridge.

Use the single- or multi-channel pipette to transfer the lysate into the Cartridges. In this operation, take care not to touch the filter in the Cartridge, the rim of Cartridge.

---

#### Note :

If any lysate is left on the rim of a Cartridge or on the Cartridge Holder, wipe it off with a soft paper tissue.

---



#### (2) Set the Pressure Seal Plate covering the Cartridges.

---

#### Important :

- Keep the stainless steel side up, the silicone rubber (Packing) side down and the Packing towards to the Cartridges while setting the Pressure Seal Plate.
  - Check the position of Pressure Seal Plate to make sure the both ends of Pressure Seal Plate are inserted in the notches of Cartridge holder.
- 

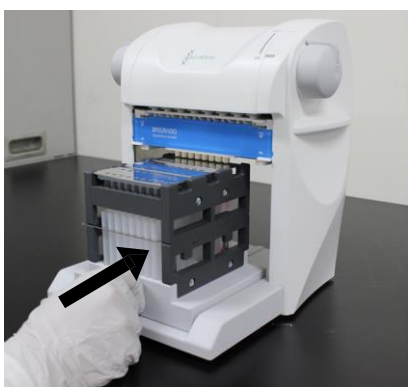
---

#### Note :

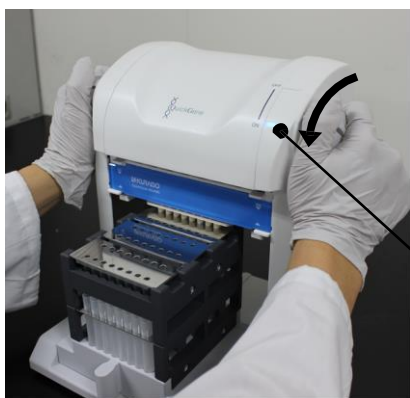
Do not use the soiled Pressure Seal Plate.

If the Pressure Seal Plate gets dirty, clean it before using. 「3.2 Cleaning the Parts」

---



#### (3) Set the Cartridge Holder and Waste Tube Holder into QuickGene-Mini480. Make sure that the first row of Cartridge/Waste Tube Holder unit is placed at the stopper which located just under the Pressure Head inside the machine the with a gentle push.



- (4) Rotate the rotary switch toward the front side to lower the Pressure Heads.

---

**Important :**

Use both hands to rotate the rotary switch.

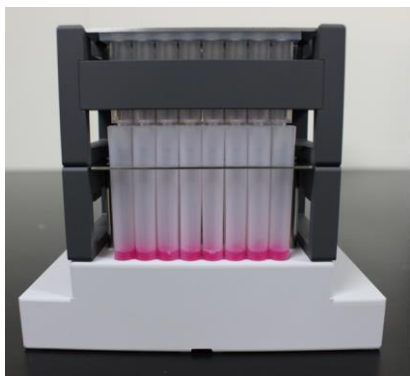
---

Rotate up to here.

- (5) The lamp (LED) blinks and pressurized air is put into the Cartridges row by row.

**Note :**

- When the solution in each Cartridge is discharged completely before pressure application automatically stops, return the rotary switch to the original position to terminate pressure application (Refer to page.7 “Pressure Control Switch”).
- Pressure application automatically stops in about 70 seconds. Pressuring time can be changed through the Pressure Mode Switch. (Refer to page.7 “Pressure Control Switch”)



- (6) Make sure that the lysate does not remain in the Cartridges.

---

**Important :**

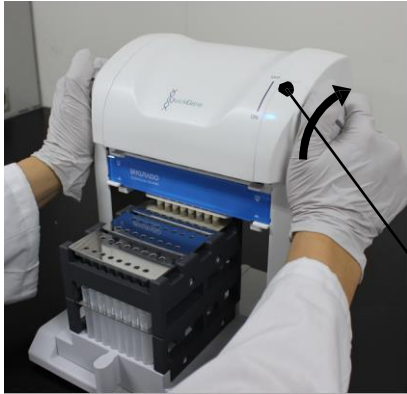
Make sure that no liquid remains in the Cartridges.

---

**Note :**

- If any solution remains in the Cartridges even after about 70 seconds has elapsed, return the rotary switch to the original position (Lamp (LED): ON) and then rotate it toward the front side (Lamp (LED): Blink) to put pressurized air into the Cartridges again.
  - If the rotary switch is returned swiftly to the original position, it may result in the splashing or solutions. Accordingly, rotate the rotary switch slowly.
-

2



(7) Return the rotary switch to the position OFF to raise the pressure heads.

---

**Note :**

Do not pull out the Cartridge/Waste Tube Holder while the pressure heads are lowered.

---

**Important :**

Use both hands to rotate the rotary switch.

---

Rotate up to here.



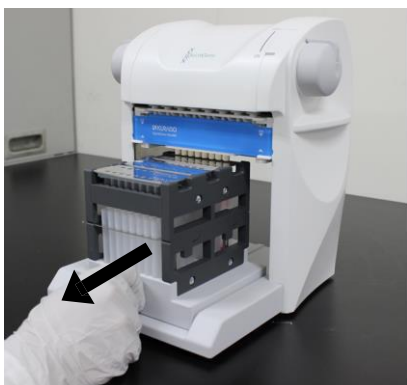
(8) Repeat the pressure process for the rest rows of the Cartridges.

---

**Note :**

Refer to step (3) to (7).

---

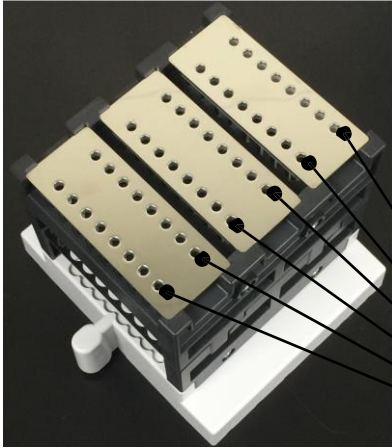


(9) Pull out the cartridge/waste tube holder

**< Wash >**

**(10) Apply Wash Buffer to each Cartridge.**

Use the single- or multi-channel pipette to apply Wash Buffer to each Cartridge through the hole of the Pressure Seal Plate. In this operation, take care not to touch the Cartridges.



**Note :**

If any Wash Buffer is left on the Pressure Seal Plate, wipe it off with a soft paper tissue.

**2**

The holes of Pressure Seal Plate



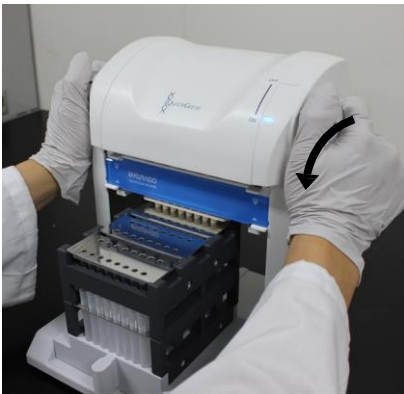
**(11) Rotate the rotary switch then pressurized air is put into the Cartridges to perform the wash process**

**Note :**

Refer to Step (3) to (7).

**Important :**

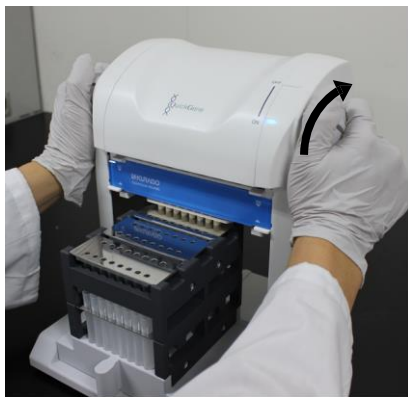
Use both hands to rotate the rotary switch.



**(12) Repeat the wash process the necessary number of times in correct rows according to the protocols.**

**Note :**

Refer to Step (10) to (11).



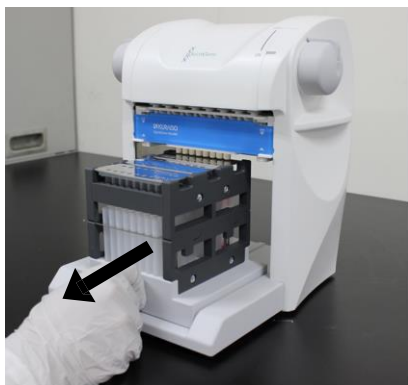
(13) After wash process is completed, return the rotary switch to the “OFF” position to raise the pressure heads.

**Important :**

- Use both hands to rotate the rotary switch.
- Make sure that no liquid remains in the Cartridges.
- Make sure that the Pressuring time of the last wash process for at least 70 seconds. If the Pressuring time was changed, return to original setting (70 seconds) through the Pressure Mode Switch. (Refer to page 7 “Pressure Control Switch” and 9 “Pressure Parameters”)

**Note :**

Do not pull out the Cartridge/ Waste Tube Holder while the pressure heads are lowered.



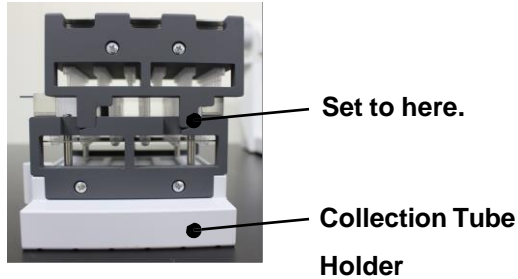
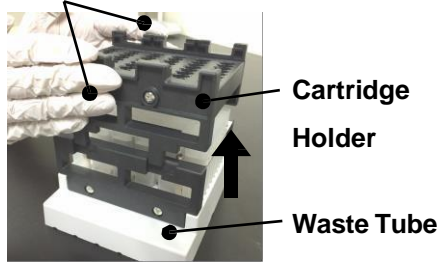
(14) Pull out the Cartridge/Waste Tube Holder.

**■ Precautions for applying DNase into Cartridges**

- Apply DNase directly onto the filter in each Cartridge. Be careful not touch the membrane with the pipette tip.
- If necessary, remove the Pressure Seal Plate then perform this process. After the DNase applying, return the Pressure Seal Plate to original position.



Use both hands



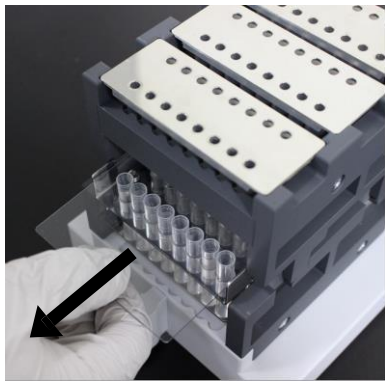
### <Elution>

(15) Remove the Cartridge Holder from the Waste Tube Holder, and set it to the correct position of the Collection Tube Holder.

Note :

- Use both hands to remove the Cartridge Holder.
- Before setting the Cartridge Holder onto the Collection Tube Holder, make sure the Separator is covering on the Collection Tube Holder.

2



(16) Pull out the Separator.

Note :

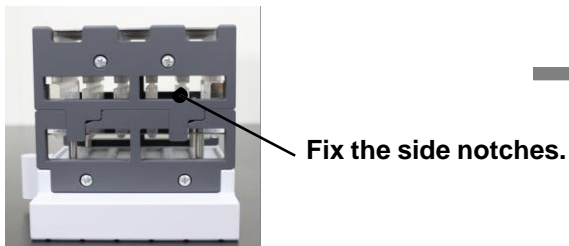
- Do not touch the tips of the Cartridges, when removing the Separator.
- Use clean Separator. If it's soiled, perform cleaning. (3.2 Cleaning the Parts)

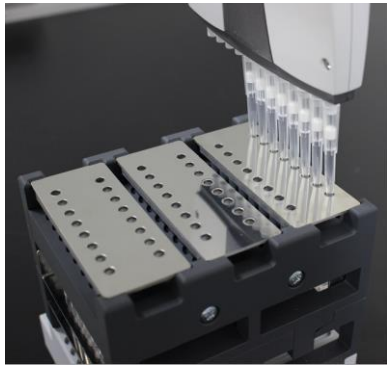


(17) Insert the Cartridge Holder into the side notches of the Waste Tube Holder.

Note :

- Use both hands to set the Cartridge Holder.
- Set the Cartridge Holder gently, otherwise liquid may splash.





**(18) Apply Elution Buffer to each Cartridge.**

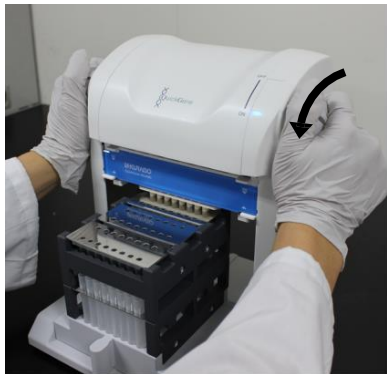
Use the single- or multi-channel pipette to apply Elution Buffer to each Cartridge from the hole of the Pressure Seal Plate. In this operation, take care not to touch the Cartridges.

**Important :**

Make sure that apply the Elution Buffer after setting the Cartridge Holder onto the Collection Tube Holder.

**Note :**

If any Elution Buffer is left on the Pressure Seal Plate, wipe it off with a soft paper tissue.



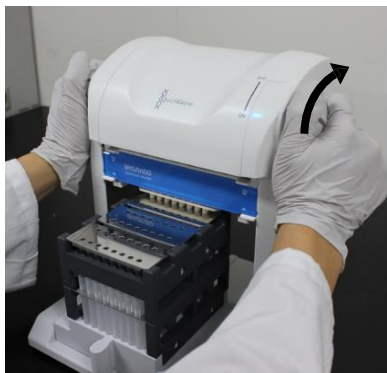
**(19) Rotate the rotary switch then pressurized air is put into the Cartridges to perform the elution process.**

**Note :**

Refer to Step (3) to (7).

**Important :**

Use both hands to rotate the rotary switch.



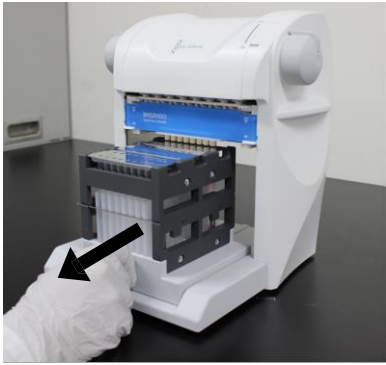
**(20) After elution process is completed, return the rotary switch to the "OFF" position to raise the pressure heads.**

**Important :**

- Use both hands to rotate the rotary switch.
- Make sure that no liquid remains in the Cartridges.

**Note :**

Do not pull out the Cartridge/Collection Tube Holder while the pressure heads are lowered.



(21) Pull out the Cartridge /Cartridge Holder.

### ■ Notes on Incubation



When the extraction process is followed by incubation, return the rotary switch to the “OFF” position, and then leave the QuickGene-Mini480 at room temperature with the Cartridge/Collection Tube Holder.

2

■ After Extraction Operation



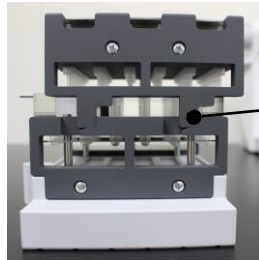
- (1) Pull the Cartridge Holder up from the Collection Tube Holder to correct position as shown in left figure.

---

Note :

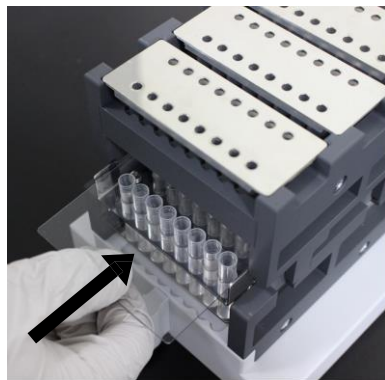
Use both hands to remove the Cartridge Holder.

---



Pull the Cartridge Holder up to here.

2



- (2) Insert the Separator into the interval of the Cartridge Holder and the Collection Tube Holder as shown in the left figure.

---

Note:

- Do not touch the tips of the Cartridges, when inserting the Separator in.
  - Use clean Separator. If it's soiled, perform cleaning. (3.2 Cleaning the Parts)
- 

- (3) Remove the Cartridge Holder from the Collection Tube Holder, and then dispose of the Cartridges.

---

Note :

- Use both hands to remove the Cartridge Holder.
  - Dispose of the Cartridges according to appropriate laws and rules.
- 



BIOHAZARDE:

Dispose of infectious waste according to your biological safety manuals.



- (4) Put Caps (included in the QuickGene Isolation Kits) on the Collection Tubes and then remove them.

- (5) Remove the Waste Tubes from the Waste Tube Holder, and then dispose of them.

**2**

---

Note :

Dispose of the Waste Tubes and waste solution according to appropriate laws and rules.

---



**BIOHAZARD:** Dispose of infectious waste according to your biological safety manuals.

2

## 3 Maintenance

To use QuickGene-Mini480 properly, check whether or not each part is clean and in normal condition before use. If necessary, perform cleaning and/or part replacement referring to the descriptions in this chapter.

### 3.1 Cleaning QuickGene-Mini480

This section explains how to clean QuickGene-Mini480.



**BIOHAZARD:** When cleaning QuickGene-Mini480, wear appropriate gloves, a mask, and safety goggles.



**WARNING:** Before starting the maintenance work, turn off the power of QuickGene-Mini480 and disconnect the power plug from the outlet. Otherwise it may cause an electric shock.



Parts to clean	Cleaning methods
Body (outside)	Remove dust gently with a dry, soft cloth. If the outside of the device is heavily soiled, or if any samples that may cause infection are adhered to the outside of the QuickGene-Mini480, wipe with a soft paper tissue, soaked with 0.1% sodium hypochlorite solution or ethanol.
Body (inside)	
Pressure Head	Wipe with a soft paper tissue, soaked with 0.1% sodium hypochlorite solution or ethanol.  <b>Note:</b> If the pressure heads are heavily soiled or any abnormal conditions (damage, deformation, hardening, etc.) are found, replace them with new ones (P.28-30).



**CAUTION:** Keep ethanol away from fire when using. It is highly flammable.

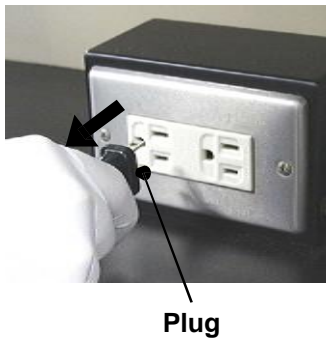
### 3.2 Cleaning the Parts

The following table describes how to clean the Parts of QuickGene-Mini480.

Parts	Cleaning methods
Cartridge Holder	Clean the parts with neutral detergent then wash out with 0.1% sodium hypochlorite solution. Next, wash the solution out with DEPC water and then dry the parts.
Waste Tube Holder	
Collection Tube Holder	
Pressure Seal Plate	
Separator	

### 3.3 How to replace the Pressure Head

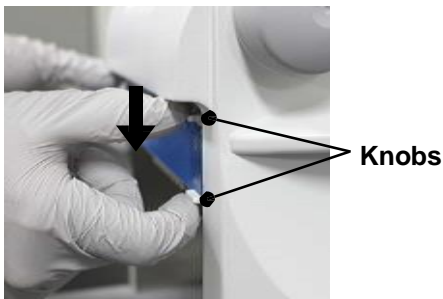
3



- (1) Turn off the power.  
Disconnect the plug of the power cable from the outlet.



- (2) Pull out the Cartridge Holder and Collection/Waste Tube Holder.



- (3) Hold the pressing type knobs of both sides of the Pressure Adapter as shown in the figure, and then press the upper knobs in the direction of the arrow.



- 
- (4) While pressing the upper knobs, take the upper protruding parts out of the QuickGene-Mini480 as shown.



Upper protruding parts

---

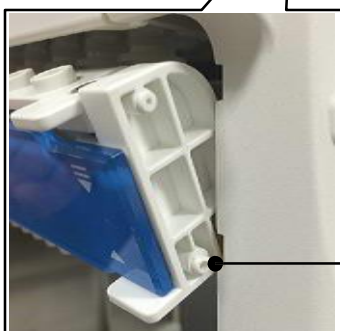
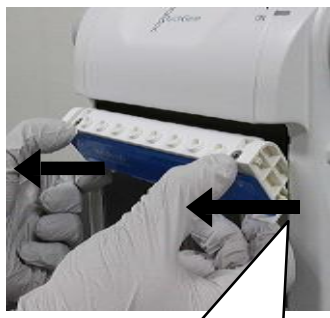
**Note:**

Do not use excessive force otherwise it may cause the Pressure Adapter failures.

---

3

- (5) Take out the lower protruding parts of Pressure Adapter in the direction as shown.



Lower protruding parts

- (6) Replace the Pressure Adapter in the reverse order to removal (3) ~ (5).

---

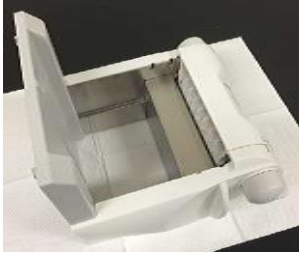
**Note:**

Do not use excessive force otherwise it may cause the Pressure Adapter failures.

---

### 3.4 How to replace the Pressure Heads

(1) First, take out the Pressure Adapter (P.28-29)



(2) Lying the QuickGene-480 face up as shown and then rotate the Rotary Switch to eject the Pressure Heads.

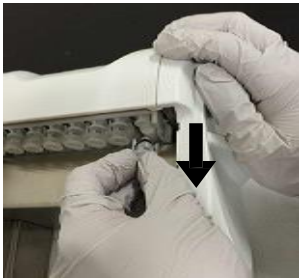
---

**Note:** Before lying the device face up, spread a cloth, etc. on the table to avoid damaging the body.

---



(3) While holding the QuickGene-Mini480 by one hand, remove the Pressure Heads.



(4) While holding the QuickGene-Mini480 by one hand, insert new Pressure Heads.

---

**Note:** Set the Pressure Heads in the direction shown in the figure, and push them completely into the body.

---



(5) Rotate the Rotary Switch to retract the Pressure Heads.

(6) Install the Pressure Adapter into the device.  
(Step.6→p. 28)



# 4 Troubleshooting

This chapter explains the procedures that should be taken when you suspect device failures.

Phenomenon	Cause	Appropriate action
The lamp (LED) does not light.	<ul style="list-style-type: none"> <li>• The power plug is not connected to the outlet.</li> <li>• The AC adapter is not connected to QuickGene-Mini480.</li> <li>• The power cable is not connected to the AC adapter.</li> </ul>	<ul style="list-style-type: none"> <li>• Connect the power plug to the outlet completely.</li> <li>• Connect the AC adapter to QuickGene-Mini480 completely.</li> <li>• Connect the power cable to the AC adapter completely.</li> </ul>
The solution put in Cartridges does not steadily drop into the Collection Tubes or Waste Tubes.	<ul style="list-style-type: none"> <li>• Cartridges are incorrectly inserted into the cartridge holder.</li> </ul>	<ul style="list-style-type: none"> <li>• Insert the Cartridges completely into the cartridge holder <b>(p.15)</b>.</li> <li>• Set the Collection and Waste Tubes corresponding to the position of the Cartridge to be inserted.</li> </ul>
	<ul style="list-style-type: none"> <li>• Pressure heads have become deformed or hardened.</li> </ul>	<ul style="list-style-type: none"> <li>• Replace the pressure heads with new ones <b>(p.16、 p.28-30)</b>.</li> </ul>
	<ul style="list-style-type: none"> <li>• Pressure heads are incorrectly installed.</li> </ul>	<ul style="list-style-type: none"> <li>• Install the pressure heads correctly <b>(p.28-30)</b>.</li> </ul>
Pressure application does not start even after rotating the rotary switch toward the front side.	<ul style="list-style-type: none"> <li>• QuickGene-Mini480 may have a mechanical or electrical problem.</li> </ul>	Contact your local representative.
QuickGene-Mini480 emits an abnormal noise.	<ul style="list-style-type: none"> <li>• QuickGene-Mini480 may have a mechanical or electrical problem.</li> </ul>	Contact your local representative.
QuickGene-Mini480 emits an abnormal smell.	<ul style="list-style-type: none"> <li>• QuickGene-Mini480 may have a mechanical or electrical problem.</li> </ul>	Turn off the power immediately by disconnecting the power cable from the outlet and then contact your local representative.



# 5 Main Specifications

The following describes the main specifications of QuickGene-Mini480.

## ■ Main specifications

Item	Specifications
Model name	QuickGene-Mini480
Dimensions	280mm (W) × 255mm (D) × 295mm (H)
Weight	Approx. 3.3kg (Main body)
Samples	Max. 48 can be processed simultaneously
Range of temperature and relative humidity	Temperature: 15 ~ 30°C Humidity: 30 ~ 80% (non-condensing)

## ■ Power supply conditions

### · AC Adapter

Item	Specifications
Rated input voltage	AC100V~240V
Voltage fluctuation range	±10%
Phase	Single
Power frequency	50 – 60Hz
Rated input current	1A
Output voltage	DC12V

### · Main unit

Item	Specifications
Rated voltage	DC12V±5%
Rated current	0.5A



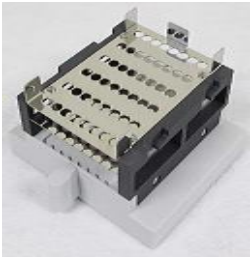

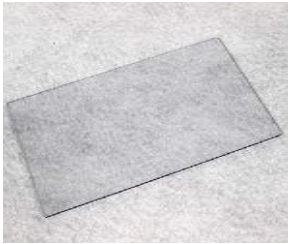



## ■ Environmental conditions

Item	Specifications
Usage environment	Indoor use only
Overvoltage category definition	Transient overvoltage category II
Pollution degree	Pollution Degree 2
IP	IPX0



# Appendix A

## A.1 Replacement/Optional Parts

Name : Cartridge Holder P/N : 40321301401	Name : Waste Tube Holder P/N : 40321301402	Name : Collection Tube Holder P/N : 40321301403
		
Name : Pressure Seal Plate (× 3) P/N : 40321301404	Name : Separator P/N : 40321301405	Name : Pressure Adapter Set P/N : 40321301408
		
Name : Pressure Heads (8 pcs.) P/N : 40321300451	Name : AC Adapter P/N : 40321301406	Name : Power Cable P/N : 40321301407
		





---

## A.2 Product Guarantees

- The guaranty period shall be one year from the delivery of the product.
- Any part which fails to function properly under normal use, provided that all warnings and cautions in this manual are observed, during the guarantee period will be repaired by KURABO INDUSTRIES free of charge.
- If the problem is due to the causes listed below, some charge may be applied for the repair even within the guarantee period.
  - Any failures due to improper use or that are affected by other devices except for those approved by KURABO INDUSTRIES.
  - Any malfunctions or damages during transportation or due to dropping of the product by user.

## A.3 About Services

- Before you ask for device repairs, refer to “4 Troubleshooting (P.31)” to check the problems. If the problems cannot be solved, contact your local representative, or the relative customer support.

## A.4 Manufacturer Information

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### KURABO INDUSTRIES LTD. Bio-Medical Department

Kurabo Neyagawa Techno Center 3F, 14-5, Shimokida-Cho, Neyagawa,  
Osaka 572-0823, Japan

TEL. 072-820-3079 FAX. 072-820-3095 URL; <http://www.kurabo.co.jp/bio/>

---

## A.5 Notes for Transfer QuickGene-Mini480

When transferring the QuickGene-Mini480, perform the following tasks:

A



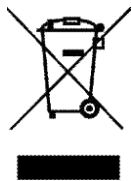
Warning:

**Before carrying QuickGene-Mini480, disconnect the plug from the outlet first. Watch your step when you relocate the QuickGene-Mini480. If the power cable is damaged, this may cause a device failure, fire, injury, or electric shock.**

When transporting/shipping QuickGene-Mini480, be sure to perform the following tasks:

Remove all attached parts (cartridge holder, waste tube holder and collection tube holder) from QuickGene-Mini480. Place the cushion removed at the time of unpacking onto the pressure heads and then secure the cushion and rotary switch with tape (Refer to “1.3 Remove the Packing Materials (P.4)”). After completing the above tasks, pack QuickGene-Mini480 in its original shipping box or some other equivalent box.

## A.6 Disposal of Devices



Do not put in the trash.

Recycle or dispose of according to local, state, or federal laws.

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### **Nucleic Acid Isolation Device QuickGene-Mini480 Operation Manual**

Date of issuance: March, 2016

**KURABO INDUSTRIES LTD.**

Printed in Japan

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