



Science for Your Protection

Product Catalog for
Researchers and Professionals

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Contents

| | |
|---|----|
| BG-Sentinel | 3 |
| BG-GAT (Gravid <i>Aedes</i> Trap) | 5 |
| BG-Counter | 6 |
| CO ₂ Upgrade | 7 |
| BG-CO ₂ Timer | 7 |
| Replacement Parts and Accessories | 8 |
| BG-Sentinel | 8 |
| BG-GAT | 10 |
| CO ₂ | 11 |
| Biogents Skin Odors | 12 |
| Pricelist | 13 |
| Ordering Information | 16 |
| Contact | 16 |

Introduction to Biogents AG

Biogents AG was founded in 2002 by Dr. Geier and Dr. Rose as a spin-off from the Institute of Zoology at the University of Regensburg, Germany. Over 16 years of thorough scientific research in the areas of insect behavior and mosquito olfactory senses led to the development of an innovative trapping technology.

Today, Biogents AG is an innovative company on the forefront of mosquito control research. The company is composed of two complementary business units: the development and production of highly efficient mosquito traps and a contract research and development sector in the field of mosquito repellents and related products. Biogents traps are the latest innovation in mosquito control traps and incorporate patented technology.

The BG-Sentinel

Biogents most reknown trap for researchers, the BG-Sentinel, was initially developed to enable researchers all over the world to monitor the yellow fever mosquito, also known as

the dengue mosquito, *Aedes aegypti* and the Asian tiger mosquito *Aedes albopictus*. During its use on different continents it became evident that the BG-Sentinel also catches other mosquito species and blood-sucking insects. This is why the trap is now used by scientists, healthcare professionals, PCOs (Pest Control Operators), and private households worldwide. The trap is also large enough to incorporate additional attractants (for example animal hairs, worn clothing, small animals, food, light and heat sources) making it a very versatile tool for other researchers as well. Numerous independent scientific studies have been conducted with the BG-Sentinel all over the world, and it has been successfully proven to be the most effective mosquito trap on the market. For an extensive list of all the publications on the BG-Sentinel, please visit our website at www.bg-sentinel.com or www.biogents.com.

The BG-Sentinel does not require CO₂ to attract:

- *Aedes aegypti*, *Aedes albopictus*, and *Aedes polynesiensis*,
- in many regions *Culex quinquefasciatus*

With the addition of CO₂ the BG-Sentinel attracts:

- a wide range of *Culicinae* and *Anophelinae* species,
- other hematophagous insects such as black flies (*Simuliidae*), stable flies (*Stomoxys*), biting midges (*Ceratopogonidae*), and new world sand flies (*Phlebotominae*) and
- increased numbers of the species mentioned above (attracted without CO₂).



Features of the BG-Sentinel 2



Cover

Our plastic cover is more stable and easier for you to mount and clean.

BG - Sentinel body

The trap body pops-up automatically and reduces the set-up time. The trap body material is durable, resistant and can be easily cleaned with water.

Funnel with shutter

The funnel is equipped with a shutter that closes the funnel automatically and prevents the caught mosquitoes from escaping in case power supply fails for any reason. Also the catch bag removal is easier and faster: funnel and catch bag together function as transport and storage unit. The shutter can be fixed for transport with a simple fixing mechanism.

Fan

A form-fitting fan with a rounded profile and a waterproof connector ensure endurance.

Rainshield

It has been shown in studies that adding a rainshield to the BG-Sentinel can increase the catch rates. Rainshield and mounting poles are separately available, see accessories.



Mosquito Trap BG - Sentinel



BG-Sentinel 2 basic version

ORDER NR 030: The BG-Sentinel basic version trap consists of a pop-up body, 1 plastic cover, 1 intake funnel, 1 funnel net, 2 catch bags, 1 ventilator (12V DC, 3.6 W, Typ II), 1 battery cable (Typ II) with connector and 1 carrier bag.

€ 109.-



BG-Sentinel 2 full version

ORDER NR 039: The BG-Sentinel full version trap includes the basic version trap plus: one power supply unit with 8 meter cable (EU version, output 12 V DC, Typ II) and the BG-Lure (imitates human skin odor).

€ 149.-

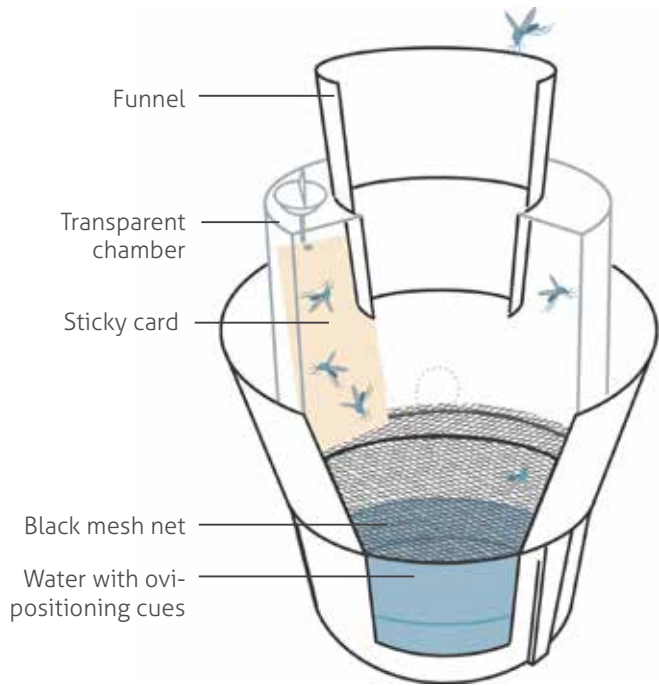
For the old version of the BG-Sentinel please send us an inquiry to sales@biogents.com.

Introduction to the BG-GAT Trap

The passive gravid *Aedes* trap, the BG-GAT, attracts female *Aedes* mosquitoes with water and ovipositioning cues.

Female mosquitoes are attracted by water and ovipositioning cues and enter the transparent chamber through the funnel. Once in the chamber mosquitoes try to escape through the translucent part where they are exposed to a sticky surface, oil or insecticides. The transparent chamber hinders the mosquitoes' ability to escape and the black mesh net provides a barrier between mosquitoes and the infused water as well as retains dead mosquitoes without damaging them.

The BG-GAT trap was developed by Dr. A.E. Eiras from the Universidade Federal de Minas Gerais, Belo Horizonte, Brazil and Dr. S.A. Ritchie from the James Cook University, Cairns, Queensland, Australia.



Cross-sectional view of the BG-GAT

Mosquito Trap **BG - GAT**



BG-GAT (Gravid *Aedes* Trap)

ORDER NR 700: 1 catch bag, 1 funnel, 1 transparent chamber, 1 black bucket with drainage holes, 1 ring, 1 sticky card holder.

The BG-GATs are available in multiples of 12 with a tiered price structure depending on quantities ordered. Please see price list for further information. Sticky cards must be purchased separately, see BG-GAT replacement parts.

**Starting
at € 19.-**

Introduction to the BG-Counter

With the BG-Counter, Biogents offers the first commercially available remote monitoring station for mosquitoes.

The BG-Counter is an innovative and autonomous mosquito trap station that differentiates mosquitoes from other insects, counts them, and wirelessly transmits the results to a cloud server.

Via the web application you can manage your mosquito traps and get new insights into daily activity patterns, adult density indices, population dynamics, and effectiveness of your control activities.

Based on the BG-Sentinel mosquito trap, the BG-Counter enables real-time measurements as well as prediction models and historical analysis of infested areas. Vector control


professionals can now establish surveillance programs with unprecedented data density and accuracy, overcoming labor constraints associated with manual inspection.

The BG-Counter

- **reports mosquito counts remotely** from everywhere in the world to an internet web page
- **samples local environmental data** such as temperature, relative humidity, ...
- **lets you manage the trap** and the application of attractants remotely
- **reduces costs** associated with manually checking mosquito traps.




BG - Counter



BG-Counter

ORDER NR 750: The BG-Counter basic includes a mobile module and a SIM card for data transmission, a fan adapter cable, a battery cable, mains supply*, a CO₂ pressure reducing regulator* with output pressure of 2 bars, and a CO₂ tube.


€ 1,550.-



BG-Counter Solar Trap Station

ORDER NR 751: The BG-Counter station includes a BG-Sentinel 2 trap with CO₂ set up*, battery cable, mains supply*, rain shelter, metal stand and solar system (without battery), and the BG-Counter basic (mobile module and SIM card).

€ 1,960.-



BG-Counter Web Service: Monthly Fee

ORDER NR 752: The monthly service for the BG-Counter web application includes the data communication, cloud storage, and web service.

€ 36.-


* When ordering, please specify whether you need an EU or US version of the mains supply and pressure regulator.

CO₂ Upgrade Set

Carbon dioxide (CO₂) is one of the most important attractants for mosquitoes. The addition of CO₂ to the BG-Sentinel trap enables you to catch a broad range of mosquitoes and other blood-sucking insects. Various sources of carbon dioxide can be used and must be sourced separately. The CO₂ upgrade set releases pure CO₂ from a CO₂ cylinder (sourced separately) directly above the BG-Sentinel trap. The pressure can be adjusted to the local and seasonal conditions with the specialized pressure regulator.

We recommend a flow rate of about 0.5 kilograms of CO₂ per day (marker on the display of the pressure regulator) for surveillance, which equals approximately 175 ml/min. A 10 kg CO₂ cylinder with this flow rate will last around 20 days. With higher flow rates up to 1.5 kilogram/day it is possible to further increase catch rates.

These are rough estimations because the flow rate might vary according to various parameters, e.g., temperature.




CO₂ upgrade set

ORDER NR 093: To upgrade the BG-Sentinel trap to a CO₂ trap. Comes complete with the following:

- Biogents CO₂ emitter nozzle
- CO₂ tube (5 m)
- Pressure reducing regulator with pressure gauge and knob to adjust pressure and CO₂ flow rates (for gas cylinders with valves W21.8 x 1/14" to DIN 477)

€ 75.-

Save CO₂ with the BG-CO₂ timer: The Biogents CO₂ timer allows you to control when CO₂ is released by establishing specific start and stop times. It enables you to set up two start and end times to release CO₂ each day. One BG-CO₂ timer can manage several traps simultaneously, can be used with all existing traps and runs off of a 9 V battery (battery is not included in the contents; battery should last at least 6 months).



BG - CO₂ timer

ORDER NR 306: includes a body with a display and buttons to set up the release times, two connections to the CO₂ tubes. 9 V battery is not included.

€ 57.98

Replacement Parts and Accessories

Inquiries concerning replacement parts and accessories of old trap versions that are not mentioned here please send to sales@biogents.com.

BG-Sentinel

Rainshield with mounting poles

ORDER NR 829: Rainshield with mounting poles for the BG-Sentinel 2. Material made of sturdy plastic. Fits into the BG-Sentinel bag.



UV-light set

ORDER NR 543: The BG-Sentinel can be turned into a trap for insects that are attracted to UV-light.

The UV-light uses 12V DC, and the set includes a UV-light and a Y-shaped power cord (Typ II) to connect both the UV-light and the ventilator. The ventilator and the light source together use 8 W. **Compatible with the BG-Sentinel 2*.**



Catch bag

ORDER NR 060: The catch bag is attached to the intake funnel and catches the mosquitoes that are sucked in by the ventilator.



UV-light set for midges

ORDER NR 010: With the UV-light set for biting midges the BG-Sentinel can be used as a trap that attracts biting midges. The midge trap is used by the German surveillance program against Blue Tongue vectors (*Ceratopogonidae*).

This set includes the UV-light set (Order nr. 543) plus a beaker catch bag, two plastic beakers that are placed within the beaker catch bag for diluted alcohol or other liquids to instantly kill and preserve the catch, and one 5 mm mesh cover net that excludes larger insects from the catch pipe.

Compatible with the BG-Sentinel 2*.



Funnel net

ORDER NR 062: The funnel net ensures that the mosquitoes in the catch bag cannot fly or crawl back out of the trap.



8 * In 2016, we have improved the electrical parts of our traps, for example new waterproof connections (Typ II). These connections are not compatible with older versions of our traps. For UV light sets compatible with the **older versions of the BG-Sentinel (Typ I)**, please contact us at sales@biogents.com.

CO₂ emitter nozzle

ORDER NR 081: CO₂ nozzle for an optimal dispersal of CO₂ with the new and old BG-Sentinel trap.



€ 10.92

Battery mounting cables, Typ II with connectors

ORDER NR 025: Battery cables with connectors to run the trap off of batteries (12 V car or motorcycle batteries are recommended). **Compatible with the BG-Sentinel 2*.**



€ 8.90

Power supply unit, Typ II

ORDER NR 058: To run the trap off of electricity. EU version with 220 V input, 12 V DC output, and 1 A. **Compatible with the BG-Sentinel 2*.**



€ 18.-

Battery mounting cables, Typ II with clamps

ORDER NR 026: Battery cables with clamps to run the trap off of batteries (12 V car or motorcycle batteries are recommended). **Compatible with the BG-Sentinel 2*.**



€ 8.90

Outdoor power supply, Typ II

ORDER NR 056: Outdoor power supply. Specifications: EU version with 100-240 V input, 12 VDC output and 1 A, 50-60 Hz. **Compatible with the BG-Sentinel 2*.**



€ 26.05

Ventilator (Fan) - IP 55, Typ II

ORDER NR 034: This ventilator is rain proof (12V DC, 3.6 W). **Compatible with the BG-Sentinel 2*.**



€ 20.-

DC extension cable, Typ II

ORDER NR 049: To use with the power supply unit or the battery mounting cables. Length is 10 meters. **Compatible with the BG-Sentinel 2*.**



€ 10.-

* Starting in 2016, we have improved the electrical parts of our traps, for example new waterproof connections (Typ II). These connections are not compatible with older versions of our traps. If replacement parts are needed for **older versions of the BG-Sentinel (Typ I)**, please see the pricelist at the end of the catalog or contact Biogents directly.

BG-GAT



BG-GAT catch bag

ORDER NR 705: BG-GAT catch bag with elastic band. The catch bag is attached to the transparent chamber of the BG-GAT.

€ 3.20



BG-GAT sticky card

ORDER NR 703: BG-GAT sticky card with dry adhesive surface on both sides of the card. Available in packages of 20 sticky cards. Price is per package.

€ 9.50

CO₂

Pressure reducing regulator

ORDER NR 068 (EU): Specialized with pressure gauge and knob to adjust pressure for a CO₂ gas cylinder (valves W21.8 x 1/14" to DIN 477). Flow restriction tubes are not needed with this regulator.



€ 63.-

Carbon dioxide tubing (20m)

ORDER NR 072: With an outside diameter of 6mm. Price is per each 20 meters of tubing.



€ 32.75

Flow restrictor tube (red)

ORDER NR 077: 10 cm CO₂ tube with sinter plug to regulate the flow to 20.8 g/h. To be used with pressure regulators bought before April 2017.



€ 5.80

Straight connector for tubing

ORDER NR 075: Connects the CO₂ tubing.



€ 3.80

X-connector for tubing

ORDER NR 073: Connects the CO₂ tubing. Required if using more than one BG-Sentinel trap.



€ 3.80

Y-connector for tubing

ORDER NR 074: Connects the CO₂ tubing. Required if using more than one BG-Sentinel trap.



€ 3.80

Biogents Skin Odors

Biogents skin odors consist of a patented combination of non-toxic substances that are specifically found in the human skin. Each of the components imitates the human skin that mosquitoes are attracted to. Biogents' patented mixture of human skin compounds is the result of 16 years of academic research into the host-finding behavior of mosquitoes at the Zoological Department of the University of Regens-

burg, Germany. Specially designed dispensers release the compounds in a specific quantity, composing a finely tuned pattern of synergistic components. The particular light and permeable dispensers of the components guarantee an optimally timed release of the scent into the surrounding area. All components are classified as non-toxic and attract blood-seeking insects that prefer to feed on humans.



BG-Lure cartridge

ORDER NR 503: The BG-Lure cartridge uses a patented combination of three components that imitate human skin to attract tiger mosquitoes in combination with the attractive visual and physical features of Biogents traps. The dispenser releases the components into the surrounding area for up to five months.

€ 26.-



BG-Sweetscent

ORDER NR 505: The BG-Sweetscent odor uses the same patented combination of components as the BG-Lure to imitate human skin but it is formulated to last only two months.

€ 15.12



BG-MB5 cartridge for malaria mosquitoes

ORDER NR 520: The BG-MB5 is a special odor blend that attracts *Anopheles gambiae* in combination with the attractive features of the Biogents traps. Lasts up to five months. The blend was developed by the Laboratory of Entomology, Wageningen University, Netherlands in cooperation with the International Centre of Insect Physiology and Ecology, Mbita Point Research and Training Centre in Kenya. Publications see below*.

€ 30.-

* Publications:

- Mukabana, W. et al. (2012): A Novel Synthetic Odorant Blend for Trapping of Malaria and Other African Mosquito Species. *Journal of Chemical Ecology*. 38:235-244.
- Verhulst, N. et al. (2011): Improvement of a synthetic lure for *Anopheles gambiae* using compounds produced by human skin microbiota. *Malaria Journal*. 10(28): 1-9.

Pricelist (Prices exclusive VAT)

| Price list of Biogents' products | | |
|----------------------------------|--|---------------|
| Order Nr. | Trap versions | Price in EUR* |
| 030 | BG-Sentinel 2 trap - basic version: pop-up body, 1 plastic cover, 1 intake funnel, 1 funnel net, 2 catch bags, 1 ventilator (12V DC, 3.6 W, Typ II), 1 battery cable, Typ II and 1 carrier bag | € 109.00 |
| 039 | BG-Sentinel 2 trap - full version: basic version trap, plus: 1 power supply unit with 8 meter cable (EU version, input 220 V, output 12 V DC), Typ II, 1 BG-Lure | € 149.00 |
| 700 | BG-GAT (Gravid <i>Aedes</i> Trap): 1 catch bag, 1 funnel, 1 transparent chamber, 1 black bucket with drainage holes, 1 ring, 1 sticky card holder. The BG-GATs are available in multiples of 12 at tiered prices depending on quantities ordered. | |
| | Number of traps | Price/trap |
| | 1 - 12 | € 19.- |
| | 24 - 108 | € 14.70 |
| | 120 - 1008 | € 11.70 |
| BG-Counter | | |
| 751 | BG-Counter Solar Trap Station includes all physical parts you need to run the BG-Counter: The BG-Counter station includes a BG-Sentinel 2 trap with CO ₂ set up**, battery cable, mains supply**, rain shelter, metal stand and solar system (without battery), and the BG-Counter (mobile module and SIM card). | € 1960.- |
| 752 | BG-Counter Web Service to get access to the web application, monthly fee The monthly service for the BG-Counter web application includes the data communication, cloud storage and web service. Single parts: | € 36.- |
| 750 | BG-Counter: The BG-Counter includes a mobile module and a SIM card for data transmission, a fan adapter cable, a battery cable, mains supply**, a CO ₂ pressure reducing regulator** with output pressure of 2 bars, and a CO ₂ tube | € 1550.- |
| 753 | BG-Trap Station: The BG-Trap station includes a BG-Sentinel 2 trap, rain shelter and metal stand. | € 140.- |
| 755 | Solar System: The solar system includes a solar panel (TÜV certified), a charge controller and connecting cables. | € 270.- |

* Prices exclusive VAT

** When ordering, please specify whether you need an EU or US version of the mains supply and pressure regulator.

Pricelist (Prices exclusive VAT)

| Price list of Biogents' products | | |
|----------------------------------|--|---------------|
| Order Nr. | Replacement parts and accessories | Price in EUR* |
| 062 | Funnel net | € 2.90 |
| 060 | Catch bag | € 3.20 |
| 019 | Gauze cover, white. For the old version of the BG-Sentinel | € 4.10 |
| 543 | UV-light set - includes UV-light (12 V DC), and 'Y' shaped power cord (Typ II) to connect both the UV light and the ventilator, compatible with the BG-Sentinel 2 | € 24.00 |
| 010 | UV-Light Set for biting midges - includes the UV-light set plus 1 beaker catch bag, 2 catch beakers, and 1 mesh cover net (for the black intake funnel), compatible with the BG-Sentinel 2 | € 30.00 |
| 081 | CO ₂ emitter nozzle for the BG-Sentinel Trap | € 10.92 |
| 050 | Ventilator (Fan) - IP 55, Typ I, 12 V DC, 3.6 W. Compatible with the old version of the BG-Sentinel | € 20.00 |
| 034 | Ventilator (Fan) - IP 55, Typ II, 12V DC, 3.6 W. Compatible with the BG-Sentinel 2 | € 20.00 |
| 022 | Battery mounting support, Typ I, compatible with the old version of the BG-Sentinel | € 8.90 |
| 025 | Battery mounting support with connectors, Typ II, compatible with the BG-Sentinel 2 | € 8.90 |
| 026 | Battery mounting support with clamps, Typ II, compatible with the BG-Sentinel 2 | € 8.90 |
| 052 | Power supply unit, Typ I - EU Version with an 8 m cable (input: 220V, output: 12 V DC, 1 A), for the BG-Sentinel old version | € 18.00 |
| 058 | Power supply unit, Typ II - EU Version with an 8 m cable (input: 220V, output: 12 V DC, 1 A), for the BG-Sentinel 2 | € 18.00 |
| 056 | Outdoor power supply, Typ II. Specifications: EU version with 100-240 V input, 12 V DC output and 1 A, 50-60 Hz. Compatible with the BG-Sentinel 2 | € 26.05 |
| 051 | DC extension cable, Typ I, 10 meters for the BG-Sentinel old version | € 10.00 |
| 049 | DC extension cable, Typ II, 10 meters for the BG-Sentinel 2 | € 10.00 |
| 829 | Rainshield with mounting poles for the BG-Sentinel 2. Material made of sturdy plastic. Fits into the BG-Sentinel bag. | € 15.10 |

* Prices exclusive VAT

Pricelist (Prices exclusive VAT)

| Price list of Biogents' products | | |
|--|---|---------------|
| Order Nr. | Replacement parts and accessories | Price in EUR* |
| 705 | BG-GAT catch bag with elastic band. The catch bag is attached to the transparent chamber of the BG-GAT. | € 3.20 |
| 703 | BG-GAT Sticky cards in package of 20 pieces. | € 9.50 |
| CO ₂ upgrades and accessories | | |
| 093 | CO ₂ upgrade set for the BG-Sentinel - includes a CO ₂ tube (5m), a CO ₂ emitter nozzle, and a pressure reducing regulator with pressure gauge and a knob to adjust pressure. Flow restriction tubes are not needed with this regulator. | € 75.00 |
| 306 | BG-CO ₂ Timer: includes a body with a display and buttons to set up the release times, two connections to the CO ₂ tubes. 9 V battery is not included. | € 57.98 |
| 068 | Biogents pressure reducing regulator, EU version, with pressure gauge and a knob to adjust pressure. Flow restriction tubes are not needed with this regulator. | € 63.00 |
| 077 | Flow restrictor tube with sinter plug (red) - 20.8 g/h for pressure reducing regulators bought before April 2017. | € 5.80 |
| 072 | Carbon dioxide tubing - (price per 20 meters) | € 32.75 |
| 075 | Straight connector for the CO ₂ tubing | € 3.80 |
| 073 | X-Shaped connector for the CO ₂ tubing | € 3.80 |
| 074 | Y-Shaped connector for the CO ₂ tubing | € 3.80 |
| Biogents skin odors | | |
| 503 | BG-Lure cartridge, lasts up to 5 months | € 26.00 |
| 505 | BG-Sweetscent, lasts up to 2 months | € 15.12 |
| 520 | MB5 cartridge for malaria mosquitoes, lasts up to 5 months | € 30.00 |

* Prices exclusive VAT

Ordering Information



To order please contact our sales department at Biogents AG. Contact information can be found on the next page. Delivery periods vary depending on order size and may require up to 3 - 4 weeks.

Payment Terms

All prices are in euros, net, and exclusive of VAT. VAT only applies for EU customers without a VAT identification number. Prices do not include shipping charges. These depend on quantity, destination, and the mode of shipping you choose.

Payment in euros and by wire transfer is desired. We suggest the quick and simple SWIFT (Society for Worldwide Interbank Financial Telecommunication) money transfer system which is available at most banks worldwide. We cannot accept direct payments by credit card.

Biogents' bank details:

Account holder: Biogents AG
Bank name: Commerzbank Regensburg
SWIFT/BIC - Code : COBADEFFXXX
Bank code number: 750 400 62
Account number: 6030951 00
IBAN: DE43 7504 0062 0603 0951 00

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Contact

Biogents AG
Weißenburgstraße 22
93055 Regensburg
Germany

Phone: +49 941 5699 2167 or +49 941 5699 8853
Fax: +49 941 5699 2168
sales@biogents.com

Visit our webpage for manuals, reports, papers, and other information:
www.bg-sentinel.com or www.biogents.com

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