



# BIOGENOMICS

Focussed on Diabetes & Cancer Biopharmaceuticals

EXPLORE

ANALYZE

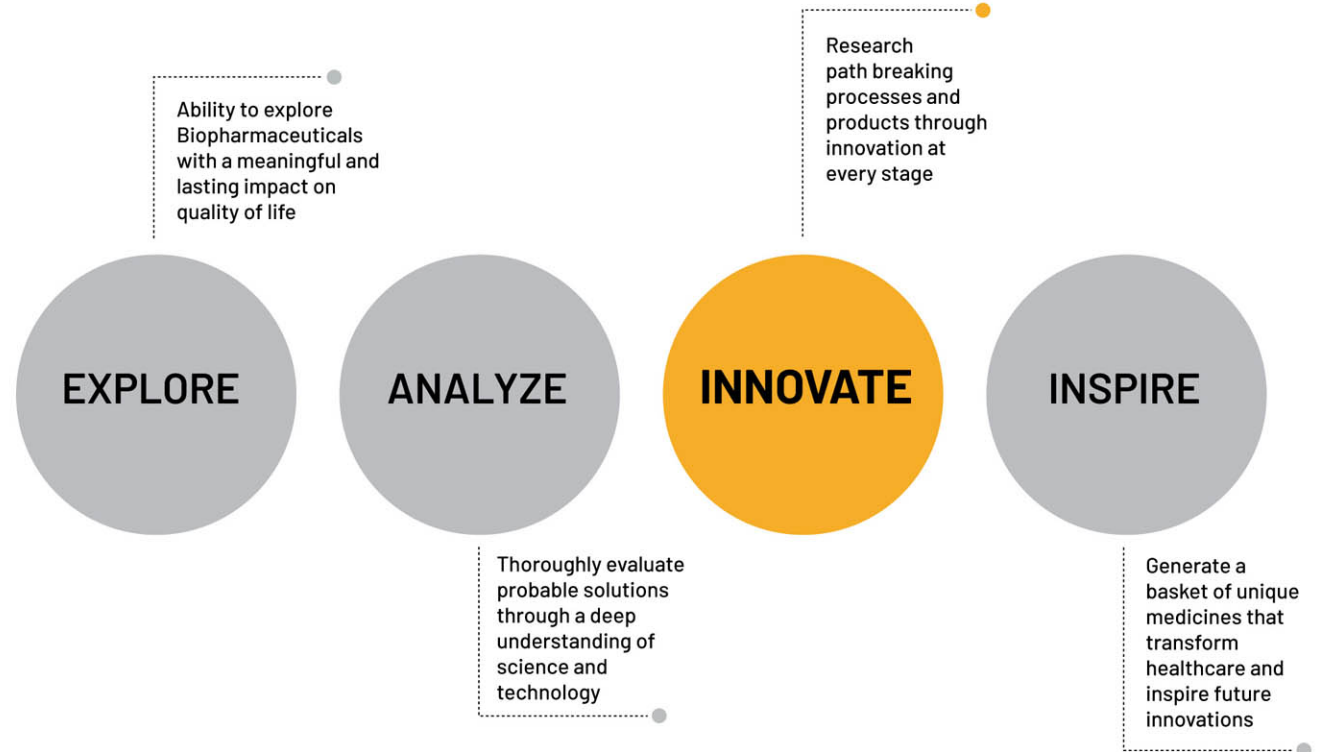
**INNOVATE**

INSPIRE



## Focussed on Diabetes and Cancer Biopharmaceuticals

- Founded by technocrats with MNC experience.
- 200+ total employees including 70+ Scientists.
- Headquartered near Mumbai, India.
- Fully equipped, Department of Scientific & Industrial Research (DSIR) approved, Good Laboratory Practices (GLP) compliant research and development centre near Mumbai, India (ISO 9001:2015, ISO:140001, ISO:18001 certified).
- State of the art Good Manufacturing Practices (GMP) manufacturing and fill + finish facilities in Pondicherry, India.



● ● ● ● **VISION**

Increasing access to  
Life-Saving Biopharmaceuticals  
through adaptive innovations



● ● ● ● **MISSION**

To develop innovative products,  
technologies and business practices.

To deliver high quality products  
through a safe and compliant environment with  
advanced infrastructure.

To develop enriching relationships  
with our customers, employees and  
business partners.



**Co-Founder Director**  
**Sanjay Sonar, Ph.D.**

Over 30 years of experience in downstream and protein engineering.

Ph.D. from Indian Institute of Technology, Mumbai; Post-doctoral work at Boston University and MIT, Cambridge, (USA).

Worked in a close collaboration with Nobel Laureate Har Gobind Khorana at MIT for 6 years.

Holds over 100 patents.



**Co-Founder Director**  
**Archana Krishnan, Ph.D.**

Over 20 years of experience in molecular biology, strain development and upstream process.

Ph.D. from the Center of DNA Fingerprinting and Manipal University.

Gold medalist at University of Baroda.

Holds over 27 patents.



**Young and dedicated, team of 70+ Scientists with Ph.D.s, Medical Doctors, Masters and other advanced degrees.**



**BIOGENOMICS**

## Empowered through research. Enriched through innovation



Surface plasmon resonance for receptor binding studies. Location:R&D centre,Thane.



Automated DNA sequencing. Location:R&D centre,Thane.

### Indigenous to the core

- Completely indigenous technology at each stage of development, including cell lines and process development.
- All manufacturing processes established for robustness, using modern 'Quality by Design' concepts.

### International standard clinical safety and efficacy trials

- EMA and GCP compliant clinical studies.
- Statistically significant and meaningful clinical trials.
- Clinical trials aimed at establishing biosimilarity, immunogenicity and efficacy using globally sourced reference products.



LC/MS/MS-Q-TOF. Location:R&D centre,Thane.



Gene expression studies. Location:R&D centre Thane.



Freeze dryer for active biological substance. Location:R&D centre,Thane.



Clones and Cell banks. Location:R&D centre,Thane.

### Quality that matches only the best

- BioGenomics establishes biosimilarity by a thorough characterization process, using modern technologies which are compliant with global regulatory requirements.
- Animal-origin free products.

### cGMP Production Facility

- WHO GMP certified.
- Advanced formulation capabilities.
- ISO 9001:2015, ISO 14001 and ISO 18001.
- Aiming to be FDA facility.

### Strong IP portfolio for Value Creation

BioGenomics' innovations cover supervectors for mammalian and microbial expressions, codon optimised gene sequences, protein folding technologies, novel purification and isolation technologies.



cGMP compliant man material flow at manufacturing plant at Puducherry.

## Life Saving Biopharmaceuticals

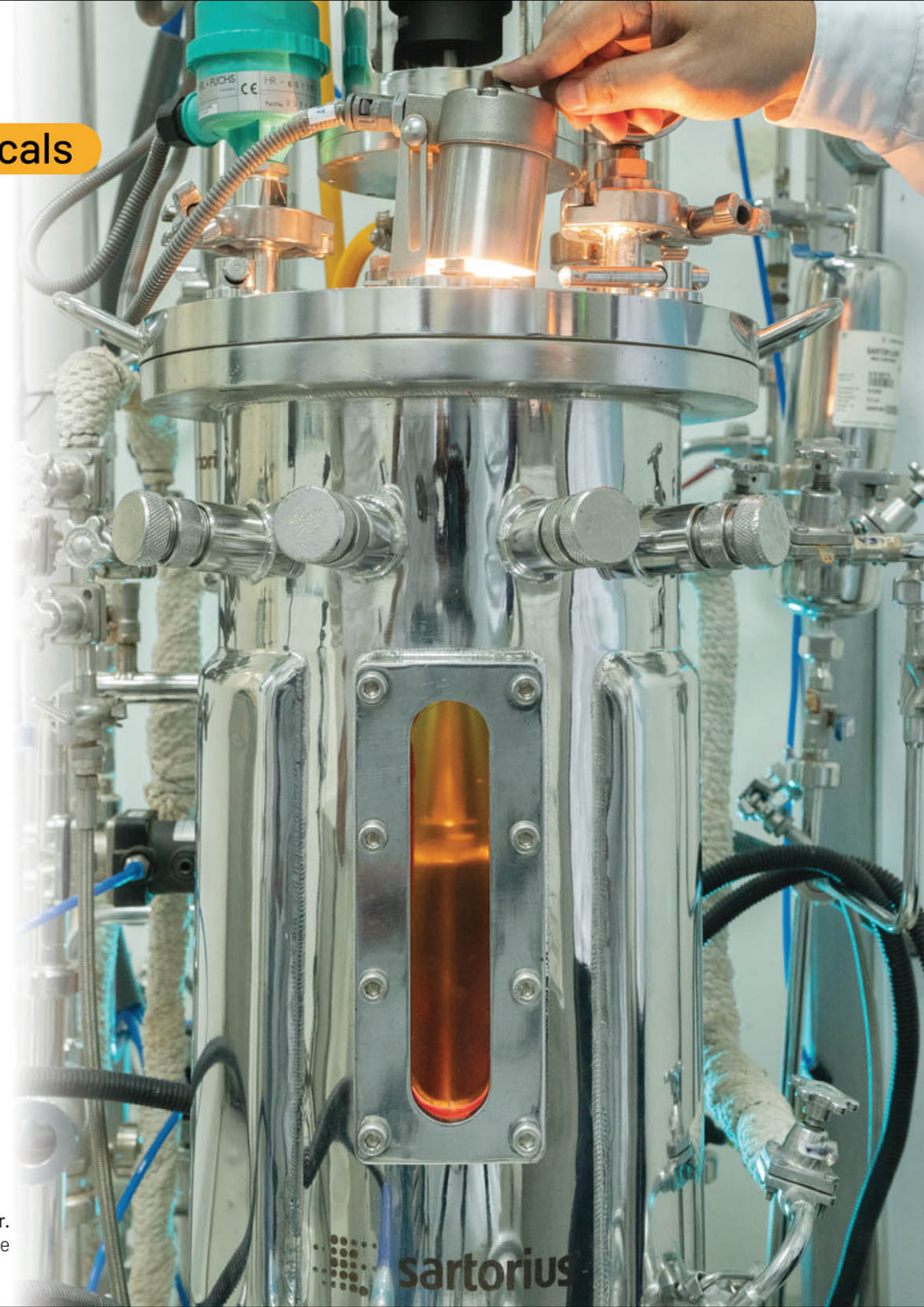
The pharmaceutical portfolio of BioGenomics focuses on anti-diabetes and anti-cancer segments since these two segments have a high impact on the quality of life.

The anti-diabetes range of products is the most comprehensive one at BioGenomics. Human Insulin, Insulin Aspart (Rapid and Mix), Insulin Glargine, Insulin Lispro have already completed development and are undergoing clinical trials. GLP-1 inhibitors and other advanced analogs are in development stages.

The anti-cancer pipeline of BioGenomics consists of Filgrastim and its PEGylated forms and various monoclonal antibodies. Filgrastim is currently in clinical trials and various monoclonal antibodies are in development stages.

There is an ongoing demand for these products due to emerging newer drug delivery systems and ever expanding indications.

Bioreactor.  
Location: R&D centre, Thane



sartorius



# Advanced Biotechnology for Human Health



Fermentation and upstream process at GMP manufacturing plant at Puducherry.



Cell harvesting & homogenisation at GMP manufacturing plant at Puducherry.



Refolding & Protein purification at GMP manufacturing plant at Puducherry.

## Penetrating high potential markets

BioGenomics is addressing the US\$ 30 billion/year insulin and analogs market.

Due to limited access to advanced analogs in several geographies, all products continue to grow at double digit growth rates, year on year.

BioGenomics is also addressing the anti-cancer market through its G-CSF and Monoclonal antibodies program. This market is of highest priority for all healthcare providers and governments.

## Partnering with leaders

BioGenomics is partnering country specific pharmaceutical segment leaders for each class of products. Its partnerships ensure mutual success through joint investments in products, enable competitive pricing and effectively facilitate mutually beneficial partnering models.

The current partnerships of BioGenomics are in the following regions:

- India
- South East Asia
- North America
- Central and South America
- Southern Africa

## Pioneering innovative enzymes

BioGenomics has a proven expertise in the production of enzymes for the biopharmaceutical industry.

Due to its GMP manufacturing, Animal-Origin Free processes and with best-in-class performance, BioGenomics is the preferred provider of these high-quality enzymes to various global biopharmaceutical companies.

The portfolio includes recombinant Trypsin, recombinant Cabroypeptidase-B, recombinant Enterokinase and various unique formulations of enzymes.



Combi fill-finish for vials, cartridges & pre-filled syringes at GMP manufacturing plant at Puducherry.

# Comprehensive and unique products under development for Diabetes and Cancer



## Rapid Acting

Meal-time insulins with a short effective time of 0.5-1.5 h

### Insulin Aspart

Advanced insulin used in modern delivery devices such as pumps, patches etc. Also used in gestational diabetes and in-hospital use.

### Human Insulin

Most commonly used insulin for treatment of diabetes and its complications.

### Insulin Lispro

Insulin Lispro is better and faster than Human Insulin but has a shorter effective time.

## Intermediate Biphasic

Day-time insulins with effective time of 4-8 h

### Insulin Aspart Biphasic

Meal-time with a dual action mode for better control of diabetes.

### Human Insulin Biphasic

Dual action mode insulin.

## Long Acting

Night-time insulins with prolonged effective time of 18-24 h

### Insulin Glargine

Night-time insulin for better control of diabetes.

### Insulin Detemir

Advanced version to control blood sugar upto 24 h.

## Ultra-long acting

Once-daily basal insulin with ultra-longer effective time of more than 42 h

### Insulin Degludec

Once-daily injection providing steady levels of blood insulin.

### Insulin Degludec and Insulin Aspart

Once-daily and dual action insulin for diabetes Cancer.

## Cancer

Essential medicine for chemotherapy-based treatment of all types of cancers

### Filgrastim

Daily injection used in treatments of all cancers to increase immunity after chemotherapy.

### Pegfilgrastim

Once a week injection in treatments of cancers to increase immunity after chemotherapy.

Diabetes and Oncology Portfolio

Commercialization



Phase III Studies



Phase I Studies



Animal Studies



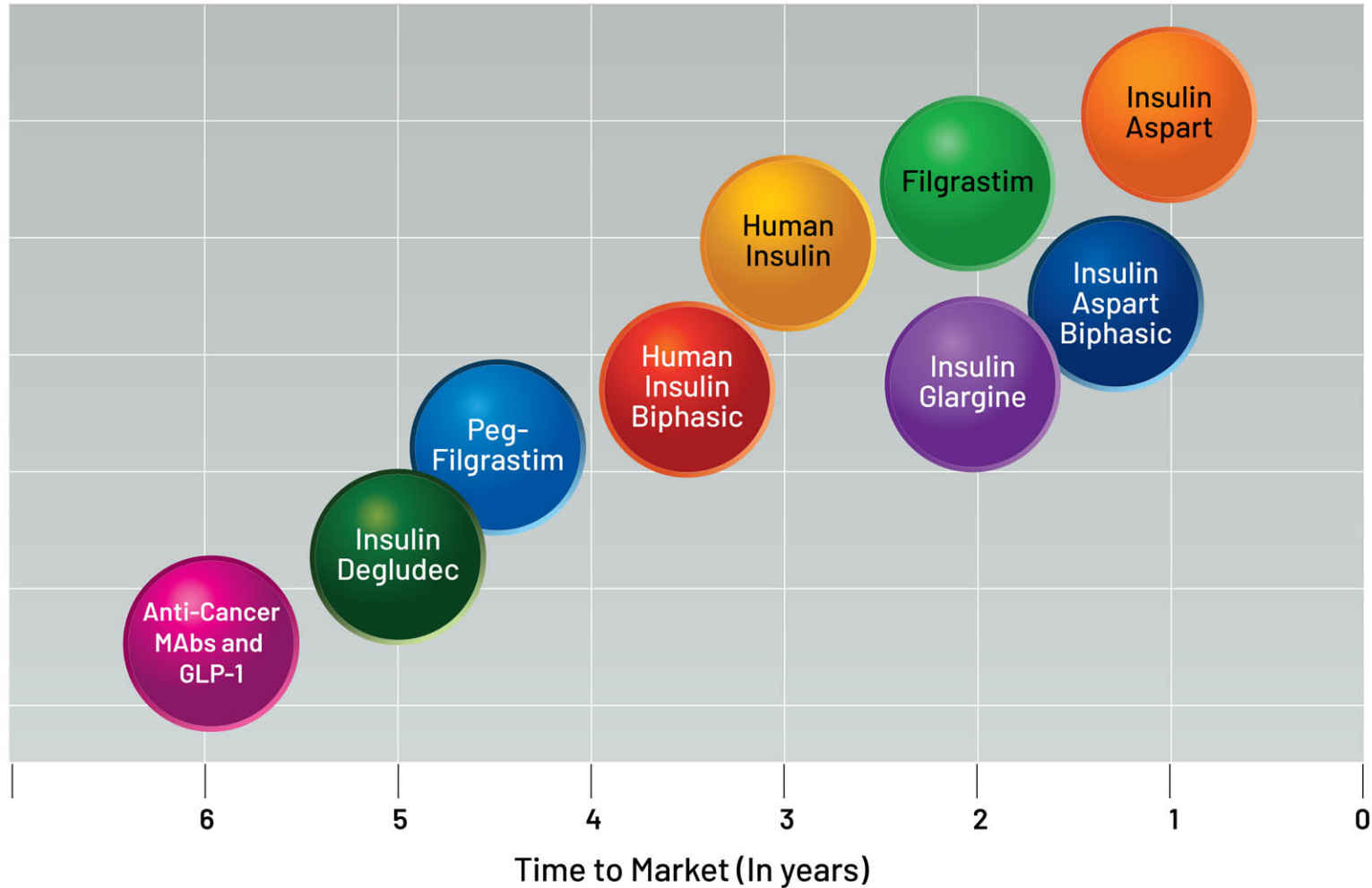
Analyse



Scale-up



Develop





# End to end solutions for the Biotech domain

## auri signum

### Establishing Gold Standards in Bench to Batch services for Biotechnology

Text



**Develop**

**Manufacture**

**Analyse**

**Control**

**Document**

Cell Line development  
 Process development  
 Analytical development

cGMP API manufacturing  
 cGMP fill finish  
 cGMP Cell banking

Full protein characterisation services  
 Bioassay

Release testing  
 Stability testing

Dossier preparation  
 Filing with regulatory authorities

## Wide range of products for Diabetes and Metabolic Syndrome



### Diabetes care

Insulin + Analogs  
 Oral Anti-diabetics

### Products for managing Diabetic complications

Neuropathy  
 Retinopathy  
 Nephropathy  
 Diabetic Foot Ulcer

### Metabolic syndrome

Lipids  
 Obesity

Products to reduce Fat/appetite

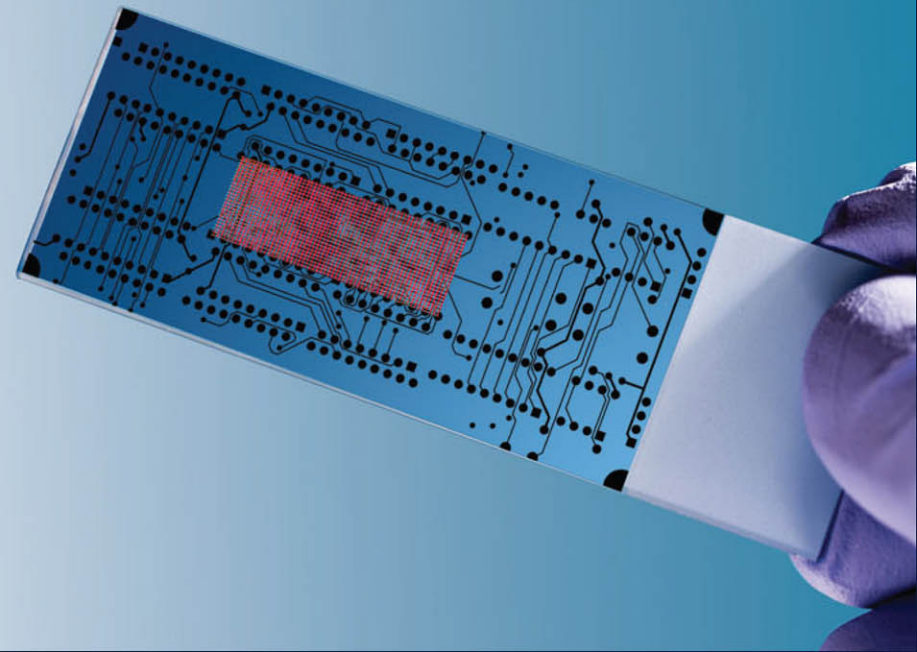
### Nutritional supplements with Antioxidant

## Revolutionising the future with leading edge innovations

Biogenomics is at the cusp of a major transformation in the biopharma industry. Research and development being the forte of the team, it will focus on this key strength to derive its value. Technology and innovation are the most important drivers for this progress.

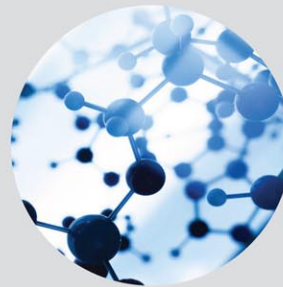
Some of the unique products in the pipeline are:

- Advanced monoclonal antibodies (Cancer Immunotherapy) targeting cancers such as
- Atezolizumab: treatment of solid tumours such as bladder cancer, lung cancer
- Nivolumab: treatment of solid tumours such as lung cancer, renal cancer, liver cancer • Pembrolizumab: treatment of lung cancers, head and neck cancers
- Next generation diabetic medications such as Insulin degludec and liraglutide (a GLP-1 analog) which help in better control of the blood sugar
- Innovative formulations of insulin Analogs that will reduce the number of injections for a patient and thereby increase patient convenience
- New drug delivery mechanisms for better patient compliance





# BIOGENOMICS



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