

“Q-lean” Introduction of Antibacterial Toothbrush

Feel even if
using it once!

www.ebluecap.com

2020.

Global Gangwon Trade Co., Ltd.



The dominant extraction of “Q-lean” Toothbrush

Feel even if using it once!
Magical effect in only 3
days!

1. Passed the test of excellent antibacterial performance, American standards. (THE FORSYTH INSTITUTE Clinical Collaborative . July 25,2008)
Caries pathogen(mutans), plaque pathogen(gingivalis) 99.7% apoptosis
2. Processed with the antibacterial material composites itself which is not method of existing nano-coating processing.
99.7% apoptotic effect semi-permanent lasting durability even using after 20,000 times
3. Proved innoxiousness to human body due to using only pure silver(Ag) which is not organic antimicrobial.
4. Excellent effect of removing plaque through the superior elasticity due to the dual bristle system.



1. Antibacterial Toothbrush

1 – 1. MARKETING

1 – 2. EFFECTS

1 – 3. Antibiotic Mechanism

1 – 4. Anti – Bacterial Test Report

1-1. Marketing

USA –Marketing starts from Wholefoods Mart and increasing sales (Mouth Watchers)





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Enthusiastically recommended by
dentists and dental hygienists!



Dr. Ronald Plotka D.D.S.
Creator



PROBLEM

1. Your toothbrush is a breeding ground for millions of microorganisms that can cause tooth decay, bad breath, colds and flu.
2. And your existing toothbrush cannot reach hard to get at areas that harbor plaque.

SOLUTION

1. Mouth Watchers' patent pending innovative antibacterial bristles naturally eliminate 99.9% of bacteria to help your teeth, gums and body stay healthier.
2. Our 1 micrometer Flossing Bristles™ reach and brush away food and plaque that your current toothbrush misses.



Nano-Silver Toothbrush



Powered Toothbrush

Get that
"Just cleaned at the dentist"
feeling!

Antibacterial
Bristles



Revolutionary
Flossing Bristles™



\$4.99

Buy Now

[Learn More](#)



KOREA

GEMMAKOREA Co., Ltd.

Price : ₩18,000/4pcs. 1set



1-2. Effects

EFFECTS



Reduction of gingivitis

Q-lean



Antibacterial effect

- **Strong sterilizing power**
 - Antibacterial activity after 6hrs > 99.9% (ASTM E 2149) .
- **Stable Semi–permanent Antibacterial effects**
 - All kind of microorganisms due to the antibacterial activity in it.
 - Strong and remarkable antibacterial power which is maintained even after 500 times washes.
- **Not Coated**
 - Not used organic antibacterial additives.
- **Non Toxic**
 - Not detected harmful materials(Safety)
 - Not detected toxicity in fishes in fishbowl, no skin irritation

1-3. Antibiotic Mechanism

Unlike silver ion (Ag^+), nano silver particle (Ag^0) looks like it has different antibacterial sterilization mechanism, outer wall bursts.

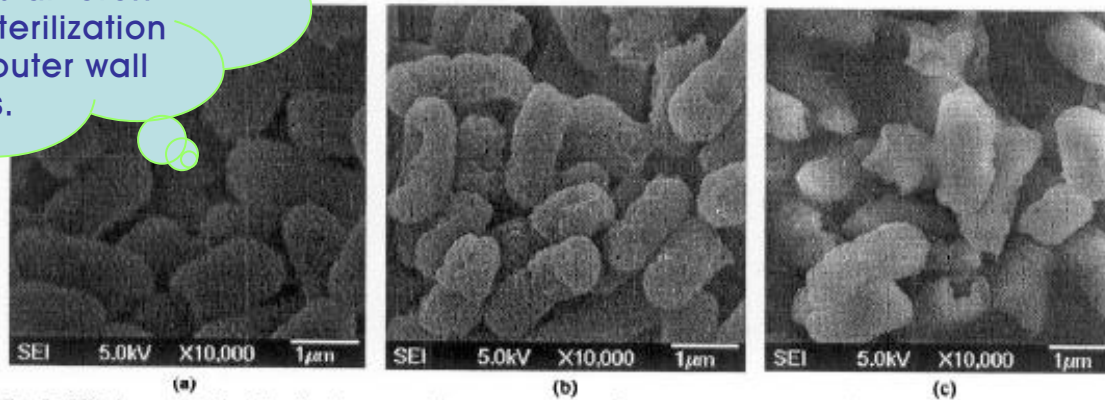


Fig. 5. SEM images of *E. coli* cells (a) untreated, (b) treated with Ag^0 and (c) treated with Ag^+ .

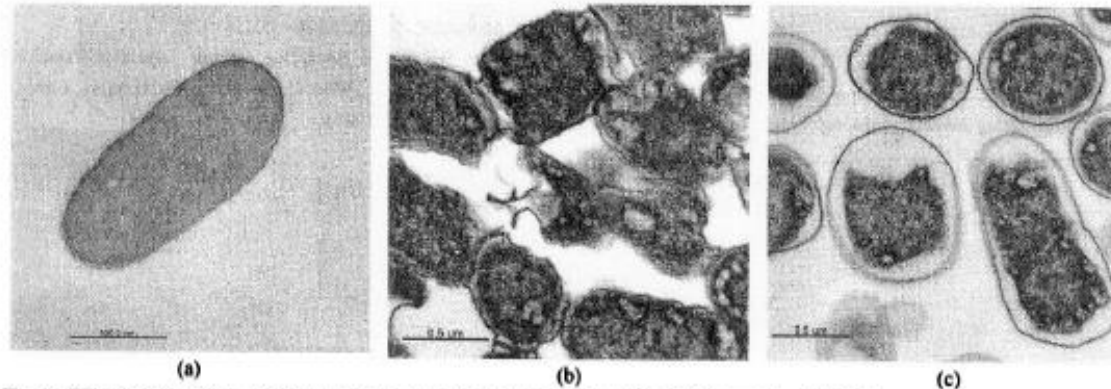


Fig. 6. TEM images of *E. coli* cells (a) untreated, (b) treated with Ag^0 and (c) treated with Ag^+ .

<Bactericidal effect by Ag^+ , Ag^0 (J.Y Yoon, SNU, 2005)>

1-4. Anti-Bacterial test report(1hr)

Testing Laboratory

Fiti Research in Korea

Testing Method

- ❖ A bacterium used in a bactericidal test. : Pneumonia
- ❖ Testing Method : ASTM E 2149 : 2001

Test Results

Test Items		Test results		
		Initial concentration (CFU/40p)	Concentration after 1 hour (CFU/40p)	Bacteria reduction rate (%)
Pneumonia	BLANK	2.1×10^5	2.1×10^5	—
	SAN-A	2.1×10^5	7.2×10^2	99.7
Testing Method		ASTM E 2149:2001		

•Testing standards passed in USA



&. 6 hrs

Testing Laboratory

KICM Research in Korea

Testing Method

- ❖ A bacterium used in a bactericidal test. : Pneumonia
- ❖ Testing Method : ASTM E 2149 : 2001

Test Results

Test Items		Test results		
		Initial concentration (CFU/40p)	Concentration after 6 hour (CFU/40p)	Bacteria reduction rate (%)
Pneumonia	BLANK	2.1×10^5	2.7×10^5	—
	SAN-A	2.1×10^5	>10	99.9
Testing Method		ASTM E 2149:2001		

•Excellent antimicrobial effect

TEST: Toothbrush

fioti Testing
Research Institute | www.fioti.kr

1hr-FITI, Korea

REPORT NO. : H217-08-00377
PAGE : 2 OF 3

TEST CONDUCTED

TEST RESULT

(01) ANTIBACTERIAL ACTIVITY OF IMMOBILIZED ANTIMICROBIAL AGENTS UNDER DYNAMIC CONTACT CONDITIONS
(ASTM E 2149-2001) : CELLS/mL, PERCENT REDUCTION OF BACTERIA %

	BLANK	#1
AT BEGINNING	2.1×10^5	2.1×10^5
AFTER 1h	2.0×10^5	7.2×10^2
PERCENT REDUCTION OF BACTERIA	---	99.7

NOTE) - TEST SPECIMEN WEIGHT : 2.0g
- BUFFER SOLUTION : SORESENSEN'S PHOSPHATE BUFFER
- TEST BACTERIA : *Klebsiella pneumoniae* ATCC 4352.
- SEE ATTACHED PHOTOS.

SAMPLE :

**With
SILVIX**



**Without
SILVIX**



e-DOCUMENT SERVICE

The test results contained in this report are for the results on the sample(s) that is provided by the client and are not necessarily related to the representation of the quality of the test item which the sample(s) was taken or of all products. Results contained in this report are not based on the quality certification of sample by the FITI quality certification program unless specifically requested by the client. Further use of the results of this report is prohibited unless allowed under a separate agreement set forth in an official document that is established between the client identified on this letter and the FITI.

6hrs-KICM, Korea



K I C M

KOREA INSTITUTE OF CONSTRUCTION MATERIALS
(THE CENTER OF WELLBEING MATERIALS)

Add. : 1465-4, Seocho-3Dong, Seocho-Ku, Seoul, Korea
Tel. : 3415-8880~81, URL : www.kicm.re.kr

Certificate of Testing Result

Serial No. of Issue : H000030 - HW004
Name of Applicant : Jeong Hoon, Lee [SILVIX CO., LTD]
Address of Applicant : #301, New Technology Business Incubating Center, 111-7, Guoon-Dong, Gwanseon-Gu, Suwon-Si, Gyeonggi-Do, Korea
Date of Receipt : Jan. 09, 2009
Name of Test Sample : Toothbrush bristle(#802)

Result of Testing

Item of test	Result of Testing			Test Method
	Early Conc. (CFU/mL)	After 6hr Conc. (CFU/mL)	Reduction rate of bacteria(%)	
antibacterial test for <i>Klebsiella pneumoniae</i>	BLANK	2.1×10^5	2.7×10^5	Client's requirement method
	Toothbrush bristle(#802)	2.1×10^5	< 10	

Eod.

* Name of test bacteria
Klebsiella pneumoniae ATCC 4352

* Refer to the enclosed

* Object of Test : Quality Control

1. This Test Report is the result of testing specimen and the name of sample provided by the applicant. But we do not guarantee the quality of entire product.
2. This Test Report is not able to be public relation, advertisement, lawsuit without consent with KICM and this is not used except original purpose.
3. The term of duplicate's issue is a half year from the date of issue. And the manuscript is invalidated.

Jan. 20 2009
month day year

Signed Jang Mok Lee

The general manager of Korea
Institute of Construction Materials

2 - 1



2.Safety Test Results

- 1. ROHS (PET Antibacterial resin)
- 2. Ag elution test
- 3. Toxic Test
- 4. Ocular irritation test
- 5. Primary skin irritation test



2-1. ROHS (PET pellet)

☐ "SILVIX" has **no harmful materials** in it by ROHS results.

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PAGE : 2 OF 3

TEST CONDUCTED

TEST RESULT

(01) PBBs (POLYBROMINATED BIPHENYLS) CONTENT : mg/kg

ELEMENT	TEST RESULTS	TEST METHOD	DETECTION LIMIT
BROMODIPHENYL	NOT DETECTED	US EPA 35400	1mg/kg
DIBROMODIPHENYL	NOT DETECTED		
TRIBROMODIPHENYL	NOT DETECTED		
TETRABROMODIPHENYL	NOT DETECTED		
PENTABROMODIPHENYL	NOT DETECTED		
HEXABROMODIPHENYL	NOT DETECTED		
HEPTABROMODIPHENYL	NOT DETECTED		
OCTABROMODIPHENYL	NOT DETECTED		
NONABROMODIPHENYL	NOT DETECTED		
DECABROMODIPHENYL	NOT DETECTED		

(NOTE) AFTER SOXHLET EXTRACTION WITH ORGANIC SOLVENT, ANALYZED BY GC-MSD AND CONFIRMED BY HPLC-DAD.

(02) PBDEs (POLYBROMINATED DIPHENYL ETHERS) CONTENT : mg/kg

ELEMENT	TEST RESULTS	TEST METHOD	DETECTION LIMIT
BROMODIPHENYL ETHER	NOT DETECTED	US EPA 35400	1mg/kg
DIBROMODIPHENYL ETHER	NOT DETECTED		
TRIBROMODIPHENYL ETHER	NOT DETECTED		
TETRABROMODIPHENYL ETHER	NOT DETECTED		
PENTABROMODIPHENYL ETHER	NOT DETECTED		
HEXABROMODIPHENYL ETHER	NOT DETECTED		
HEPTABROMODIPHENYL ETHER	NOT DETECTED		
OCTABROMODIPHENYL ETHER	NOT DETECTED		
NONABROMODIPHENYL ETHER	NOT DETECTED		
DECABROMODIPHENYL ETHER	NOT DETECTED		

(NOTE) AFTER SOXHLET EXTRACTION WITH ORGANIC SOLVENT, ANALYZED BY GC-MSD AND CONFIRMED BY HPLC-DAD.

REPORT NO. : H215-09-04813
PAGE : 3 OF 3

TEST CONDUCTED

TEST RESULT

(03) HEAVY METAL'S CONTENT : mg/kg

ELEMENT	TEST RESULTS	TEST METHOD	DETECTION LIMIT
CADMIUM (Cd)	NOT DETECTED	EN 1122	1mg/kg
LEAD (Pb)	NOT DETECTED	USEPA 3052	
MERCURY (Hg)	NOT DETECTED	USEPA 3052	
CHROMIUM VI (Cr VI)	NOT DETECTED	USEPA 3060A	0.1mg/kg

(NOTE) WITH REFERENCE TO EACH TEST METHOD FOLLOWED BY ACID/ALKALINE DIGESTION AND MEASURED BY INDUCTIVELY COUPLED PLASMA SPECTROMETRY(ICP)/UV-VIS SPECTROMETER.

SAMPLE PHOTO :



No harmful materials found

2-2. Toxicity of SILVIX : Ag elution test

- ☐ “SILVIX” passed the recommended ‘national secondary drinking water regulation’ of EPA, USA., in terms of silver concentration in the water.

Materials (Ag content)	Silver ion eluted (ppb = 1/1000ppm = mg/Kg)		
	1 st day	7 th day (accumulated)	Average/day
PET pellet (150ppm)	1.51	17	2.5
PU sponge (600ppm)	5.1	63	9.1

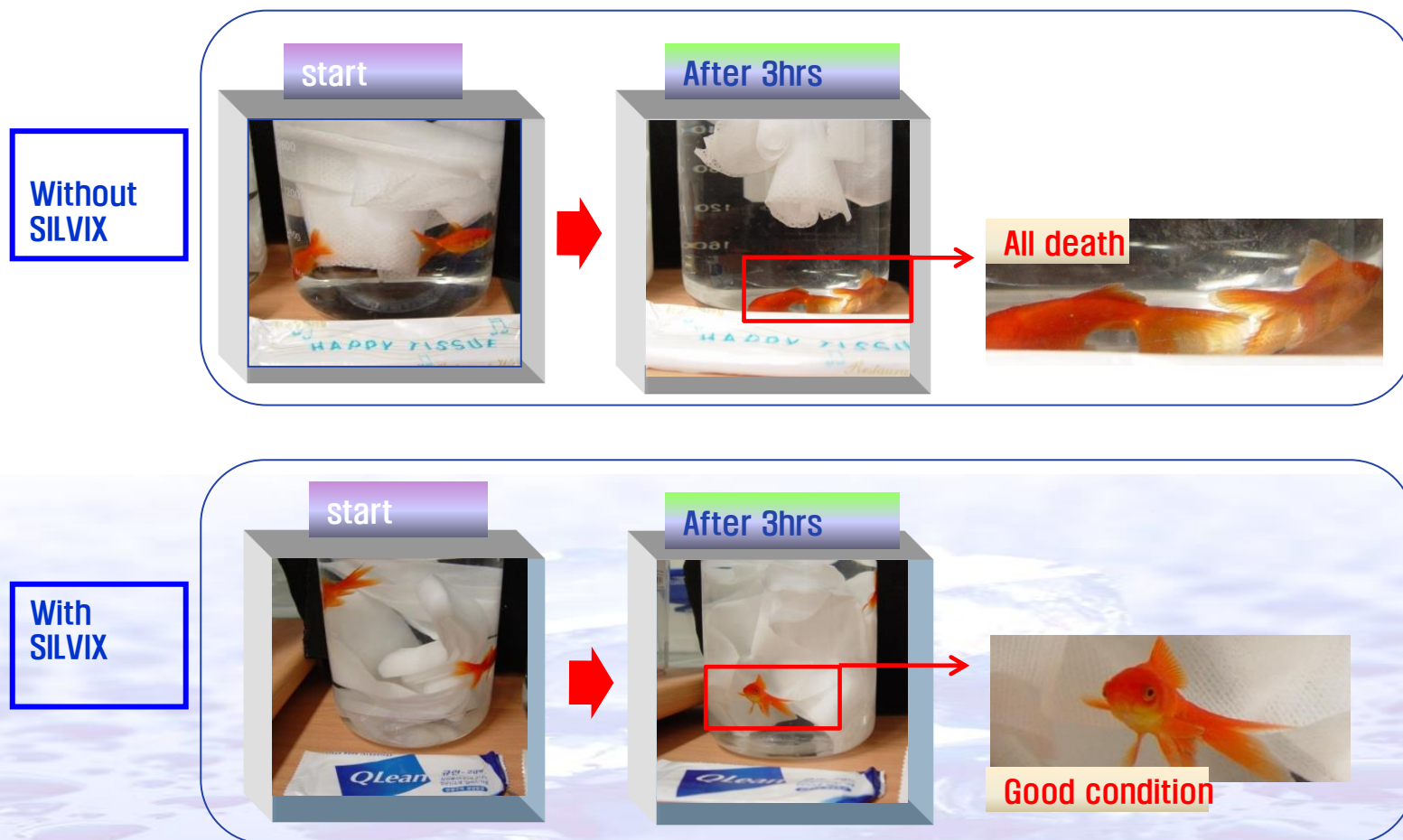
- All the above materials were made by the SILVIX stepwise particle growth method.
- According to the EPA(US) it seems like safe to the environment **less than 10ppb of Ag** were detected in the stream or lake or river.

cf.) To check out the ‘ppb scale’ silver contents in the solution, ICP-MS(Model #, Agilent 7500i) which were equipped in SKKU-CCRF(SungKyunKwan University Cooperative Center for Research Facilities) were used. This test methods were designed and performed by SILVIX Nanocomposite Materials Laboratory with the help of SKKU-CCRF.

2-3. Toxic Test : disposable Wet Tissue

◆ Testing Date : 08.06.28 ◆ Conditions: Room temp.

No fish toxicity found compared to other wet tissue



2-4. Ocular irritation test

Nelson(U.S) – Eye irritation test result showed good human body compatibility. (spunlace nonwoven)



05 Apr 2010

Ra Hanhong
Gaius Industries Co., Ltd.
Gana B/D, 10-59, Yangjae-dong, Seocho-Gu
Seoul, Korea 137-887

Dear Ra,

Enclosed is the final report for the testing we coordinated for you. The information is retained by the testing laboratory.

NELSON NUMBER: 515429

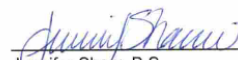
TESTING LAB: Pacific BioLabs

TYPE OF TEST: Ocular Irritation Test (ISO)

SAMPLE IDENTIFICATION:

Non-woven fabrics for Nuandnu wet wipes

If you have any questions, please feel free to call or email any of our Subcontracting personnel at 801-290-7500 or subcontracting@nelsonlabs.com. Thank you for testing with Nelson Laboratories, Inc.


Jennifer Shaw, B.S.
Subcontracting Coordinator

05 Apr 2010
Sign Date

Report Number: 10C0043G-X01G

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Table 5: Ocular Irritation Scores

Animal Number	Sex	Wt. (kg)	Time after Dosing (hrs)	Cornea		Iris	Conjunctivae		Discharge
				Opacity	Percent Area		Redness	Chemosis	
				L R	L R	L R	L R	L R	L R
55200	M	2.7	1	0 0	0 0	0 0	0 0	0 0	0 0
			24	0 0	0 0	0 0	0 0	0 0	0 0
			48	0 0	0 0	0 0	0 1	0 0	0 0
			72	0 0	0 0	0 0	0 0	0 0	0 0
55201	M	2.5	1	0 0	0 0	0 0	1 0	0 0	0 0
			24	0 0	0 0	0 0	0 0	0 0	0 0
			48	0 0	0 0	0 0	0 0	0 0	0 0
			72	0 0	0 0	0 0	0 0	0 0	0 0
55202	M	2.5	1	0 0	0 0	0 0	0 0	0 0	0 0
			24	0 0	0 0	0 0	0 0	0 0	0 0
			48	0 0	0 0	0 0	0 0	0 0	0 0
			72	0 0	0 0	0 0	0 1	0 0	0 0

R = Right Eye

L = Left Eye

REFERENCES

SOP 16G-45, *Ocular Irritation Test (ISO)*

ISO 10993-10:2002(E): *Biological Evaluation of Medical Devices – Tests for Irritation and Delayed-type Hypersensitivity; Annex B, Ocular Irritation Test*

ACUP 17A-05, *Primary Eye Irritation*

2-5. Primary skin irritation test

Nelson(U.S) – Skin irritation test result showed good human body compatibility. (spunlace nonwoven)



05 Apr 2010

Ra Hanhong
Gaius Industries Co., Ltd.
Gana B/D, 10-59, Yangjae-dong, Seocho-Gu
Seoul, Korea 137-887

Dear Ra,

Enclosed is the final report for the testing we coordinated for you. The information is retained by the testing laboratory.

NELSON NUMBER: 515428

TESTING LAB: WuXi AppTec, Inc.

TYPE OF TEST: Primary Skin Irritation

SAMPLE IDENTIFICATION:
Non-woven fabrics for Nuandnu wet wipes

If you have any questions, please feel free to call or email any of our Subcontracting personnel at 801-290-7500 or subcontracting@nelsonlabs.com. Thank you for testing with Nelson Laboratories, Inc.


Jennifer Shaw, B.S.
Subcontracting Coordinator


Sign Date

Project No. 134456
Protocol Number: 910699L

Nelson Laboratories, Inc.
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TABLE 5: CALCULATION OF THE PRIMARY IRRITATION INDEX AND FINAL RESULT

Rabbit #	Primary Irritation Scores		Irritation Response Category
	Test	Control	
10-11-04	0	0	0 to 0.4 ----- Negligible
14302	0	0	
14301	0.2	0	
Total	0.2	0	
Primary Irritation Index (PII) Total Test – Total Control / 3	0.1		

ANALYSIS AND CONCLUSION: The test was considered valid as the test article remained in contact with skin for a minimum four-hour exposure (per protocol). Based on the PII for the test article, the irritation response was negligible. Under the test conditions of this protocol, Non-woven fabrics for Nuandnu wet wipes, is considered a negligible irritant.

STATISTICAL METHODS: None applied.

TECHNICAL REFERENCES:

ISO 10993-10: 2002 Standard, "Biological Evaluation of Medical Devices, Part 10-Tests for Irritation and Sensitization" pp. 6 – 10, 21.

Maibach, H.I., Zhai, H., Dermatotoxicology 6th Edition, pp. 183-189, CRC Press LLC Boca Raton, FL, 2004.

WuXi AppTec Reference Library Contents, Form ALS-4650-1, (current revision).

US EPA – Office of Prevention, Pesticides, and Toxic Substances, (OPPTS), Health Effects Guideline, OPPTS 870.200 Acute Dermal Toxicity.



Thank You!



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♣ Shopping mall <http://www.iggtmall.com>