

## CNFULL (China (CN) Patents Full Text)

|                          |  |   |   |
|--------------------------|--|---|---|
| <b>Subject Coverage</b>  | All patent-relevant areas of science and technology, i.e., all classes of the International Patent Classification  |   |   |
| <b>File Type</b>         | Full-Text  |   |   |
| <b>Features</b>          | Thesauri   | International Patent Classification (/IPC),<br>Cooperative Patent Classification (CPC),<br>European Patent Classification (/EPC)<br>Weekly or monthly (weekly is the default) |   |
|                          | <a href="#">Alerts (SDIs)</a>  |   |   |
|                          | CAS Registry Numbers® Identifiers  | <input type="checkbox"/>  | <a href="#">SLART</a> <input checked="" type="checkbox"/> |
|                          | <a href="#">Keep &amp; Share</a>   | <input checked="" type="checkbox"/>   | Structures <input type="checkbox"/>                       |
|                          | <a href="#">Register Links</a>   | <input checked="" type="checkbox"/>   |   |
| <b>Record Content</b>    | <ul style="list-style-type: none"> <li>• Full-text of patent applications, granted patents, utility models and design patents published in People's Republic of China from 1985 onwards.</li> <li>• Records are available about a week after publication date with the complete content</li> <li>• Records contain bibliographic data including patent assignee and inventor, patent, application, priority, and related (PCT) application data, IPC, CPC and EPC classification codes, abstract, and full text of description and claims.</li> <li>• Titles and abstracts are initially machine translated and about three months later replaced by human translated text; descriptions and claims are machine translated.</li> <li>• Independent claims and claim groups are searchable for all claims in English.</li> <li>• Numeric values of 59 physical and chemical properties are searchable in about 20.000 variants of the base and additional units within all full text fields in English.</li> <li>• Ultimate Owners are searchable in the field /UO and /UOS.</li> <li>• Standardized and normalized patent assignee names are searchable in their own fields /PAS and /PAN.</li> <li>• Key terms, indexed and displayed in the field /KT, enhance retrieval of relevant results, and make the evaluation of results more efficient. They are useful to broaden search scope more precisely than Basic Index searches.</li> <li>• The Locarno classification (/LCL) is available for design patents.</li> <li>• Database records comprise all documents published for one application.</li> <li>• Clipped images (mostly front-page images) are also included, when available.</li> <li>• Some of the full text has been created by Optical Character Recognition (OCR) software. Therefore, characters may be misinterpreted, or portions of the text may be incomplete.</li> </ul> |   |   |
| <b>File Size</b>         | <ul style="list-style-type: none"> <li>• More than 54.7 million family records with more than 63.4 million publications (01/2026)</li> <li>• More than 41.4 million front page images (01/2026)</li> </ul>   |   |   |
| <b>Coverage</b>          | 1985 – present   |   |   |
| <b>Updates</b>           | Weekly   |   |   |
| <b>Language</b>          | English  |   |   |
| <b>Database Producer</b> | LexisNexis Business Information Solutions B.V.<br>Radarweg 29<br>1043 NX Amsterdam<br>The Netherlands<br>Copyright Holder  |   |   |

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|------------------|---|
| <b>Sources</b>   | Patent applications, granted patents, and utilities models published by the State Intellectual Property Office in the People's Republic of China  |
| <b>User Aids</b> | <ul style="list-style-type: none"><li>• Online Helps (HELP DIRECTORY lists all help messages available)</li><li>• STNGUIDE</li></ul>  |
| <b>Clusters</b>  | <ul style="list-style-type: none"><li>• AEROTECH</li><li>• ALLBIB</li><li>• AUTHORS</li><li>• CORPSOURCE</li><li>• ENGINEERING</li><li>• FULLTEXT</li><li>• HPATENTS</li><li>• NPS</li><li>• PATENTS</li><li>• PNTTEXT</li></ul> <a href="#">STN Database Cluster</a> information |

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## Search and Display Field Codes

If multiple search terms are linked with an AND operator, all terms are searched in the complete database record, i.e., in all publications referring to one application. For a search in a specific publication of the record, connect the search term and the patent kind code with the (L)-proximity operator, e.g., S BOREHOLE/AB, TI, CLM (L) CNA/PK limits the search to Chinese applications CNA.

Fields that allow left truncation are indicated by an asterisk (\*).

### General Search Fields

| Search Field Name  | Search Code        | Search Examples  | Display Codes              |
|--|--------------------|--|----------------------------|
| Basic Index* (contains single words from title (TI), abstract (AB), detailed description (DETD), claims (CLM), main claims (MCLM) and Key Terms (KT) fields) | None<br>or<br>/BI  | S TRANSISTOR AND ELECTRODE<br>S ACOUSTIC SENSOR<br>S ?TRANSFER?  | TI, AB, DETD,<br>CLM, MCLM |
| Abstract*  | /AB                | S BOREHOLE/AB  | AB                         |
| Abstract (English)*  | /ABEN              | S BOREHOLE/ABEN  | AB, ABEN                   |
| Accession Number   | /AN                | S 2010006109/AN  | AN                         |
| Agent Number   | /AGN               | S 101867331/AGN  | AGN                        |
| Application Country (WIPO code and text)   | /AC                | S CN/AC  | AI                         |
| Application Date (1)   | /AD                | S AD=JAN 2008  | AI                         |
| Application Kind Code  | /AK                | S CNA/AK   | AI                         |
| Application Number (2)   | /AP                | S CN 2011-10135271/AP  | AI                         |
| Application Number Original  | /APO               | S CN00100009/APO   | APO                        |
| Application Year (1)   | /AY                | S AY>=2000   | AI                         |
| Claims*  | /CLM               | S DERIVATION/CLM   | CLM                        |
| Claims (English)   | /CLMEN             | S DERIVATION/CLMEN   | CLM, CLMEN                 |
| Claims, Claim Groups *   | /CLM.CG            | S OFFICE CHAIR/CLM.CG  | CLM.CG, CLM                |
| Claims, Independent Claims *   | /CLM.IC            | S OFFICE CHAIR/CLM.IC  | CLM.IC, CLM                |
| Cooperative Patent Classification (3)  | /CPC               | S C12N0009/CPC   | CPC                        |
| Cooperative Patent Classification, Action Date   | /CPC.ACD           | S 20121113/CPC.ACD   | CPC.TAB                    |
| Cooperative Patent Classification, Keyword   | /CPC.KW            | S C12N0009/CPC (S) I/CPC.KW                                      | CPC.TAB                    |
| Cooperative Patent Classification, Version   | /CPC.VER           | S 20130101/CPC.VER   | CPC.TAB                    |
| Data Entry Date (1)  | /DED               | S 20221013/DED   | DED                        |
| Data Update Date (1)   | /DUPD              | S 20221013/DUPD  | DUPD                       |
| Detailed Description   | /DETD              | S LASER LIGHT/DETD   | DETD                       |
| Detailed Description (English)   | /DETDEN            | S LASER LIGHT/DETDEN   | DETD,<br>DETDEN            |
| Entry Date of Fulltext (1)   | /EDTX              | S 20120324/EDTX  | EDTX                       |
| European Patent Classification (3)   | /EPC<br>(or /ECLA) | S A01B0001-02H/EPC   | EPC                        |
| Field Availability   | /FA                | S AB/FA  | FA                         |
| International Patent Classification (ICM, ICS, IPCI, IPCR) (3)   | /IPC               | S A01B001/IPC  | ICM, ICS,<br>IPCI, IPCR    |
| International Patent Classification IPC (ICM, ICS, ICA, ICI)   | /IC (or<br>IPCMS)  | S A45D/IC  | IC, ICM, ICS,<br>ICA, ICI  |
| ICO (in-computer-only) Classification (3)  | /ICO               | S L29C0045-00/ICO  | ICO                        |
| Inventor   | /IN<br>(or /AU)    | S ZHANG TING /IN<br>S ZHANG?/IN                                  | IN                         |
| Inventor, Country (WIPO code and text)   | /IN.CNY            | S CN/IN.CNY  | IN, IN.CNY                 |
| IPC, Action Date (1)   | /IPC.ACD           | S 13 JAN 2006/IPC.ACD  | IPC.TAB                    |
| IPC, Initial   | /IPCI              | S B21B0001/IPCI  | IPCI, IPC                  |
| IPC, Keyword Terms   | /IPC.KW            | S INITIAL/IPC.KW   | IPC.TAB                    |
| IPC, Main  | /ICM<br>(or IPCM)  | S A62B037-00/ICM   | ICM, IC                    |
| IPC, Reclassified  | /IPCR              | S B21C0037-20/IPCR   | IPCR, IPC                  |
| IPC, Reform  | /IPC.REF           | S A01B0001-04/IPC.REF  | IPC.TAB                    |
| Key Terms*   | /KT                | S PROTEIN SYNTHESIS/KT<br>S "BIOAVAILABLE PROTEIN AND STARCH"/KT | KT                         |

## General Search Fields (cont'd)

| Search Field Name   | Search Code     | Search Examples   | Display Codes |
|---|-----------------|---|---------------|
| Locarno Classification  | /LCL            | S 19-02/LCL   | LCL           |
| Main Claim*   | /MCLM           | S ?FRACTURE?/MCLM   | MCLM          |
| Main Claim in English   | /MCLMEN         | S ALLOPURINOL/MCLMEN                                      | MCLMEN        |
| Number of Claims <b>(1)</b>                                       | /CLMN           | S 5-7/CLMN  | CLMN          |
| Number of Paragraphs in DETD<br>(Detailed Description) <b>(1)</b> | /DETN           | S DETN<10   | DETN          |
| Patent Assignee <b>(4)</b>  | /PA<br>(or /CS) | S HUAWEI TERMINAL CO LTD /PA                              | PA            |
| Patent Assignee, Country  | /PA.CNY         | S CN/PA.CNY   | PA, PA.CNY    |
| Patent Assignee, Total  | /PA.T           | S CN/PA.CNYS HUAWEI TERMINAL<br>CO LTD/PA                 | PA            |
| Patent Assignee Normalized <b>(4)</b>                             | /PAN            | S HUAWEI/PAN  | PAN           |
| Patent Assignee Standardized <b>(4)</b>                           | /PAS            | S HUAWEI TECH/PAS   | PAS           |
| Patent Country (WIPO code and text)                               | /PC             | S CN/PC   | PI            |
| Patent Information Publication Type                               | /PIT            | S CNA UNEXAMINED APPLICATION<br>FOR A PATENT FOR INV./PIT | PIT           |
| Patent Kind Code  | /PK             | S CNA/PK  | PI            |
| Patent Number <b>(2)</b>  | /PN             | S CN 102326444/PN   | PI            |
| Patent Number, Original   | /PNO            | S CN100358571/PNO   | PNO           |
| Patent Number/Kind Code   | /PNK            | S CN102326444 A/PNK                                       | PI            |
| Physical Properties   | /PHP            | S VOLT/PHP (S) TOUCH SCREEN/BI                            | KWIC          |
| Priority Country (WIPO code and text)                             | /PRC            | S CN/PRC or S CHINA/PRC                                   | PRN           |
| Priority Date <b>(1)</b>  | /PRD            | S PRD=MAY 20, 2003  | PRN           |
| Priority Date, First <b>(1)</b>                                   | /PRDF           | S 20030520/PRD  |               |
| Priority Number <b>(2)</b>  | /PRN            | S 20010614/PRDF   | PRN           |
| Priority Number, Original   | /PRNO           | S DE2004-102004063820/PRN                                 | PRN           |
| Priority Year <b>(1)</b>  | /PRY            | S US10001608P/PRNO  | PRNO, PRAO    |
| Priority Year, First <b>(1)</b>                                   | /PRYF           | S 2003/PRY  | PRN           |
| Publication Date <b>(1)</b>                                       | /PD             | S 2003-2004/PRYF  | PRN           |
| Publication Year <b>(1)</b>                                       | /PY             | S PD=JAN-FEB 2008   | PI            |
| Related Application Country                                       | /RLC            | S PY>2008 AND L1  | PI            |
| Related Application Number  | /RLN            | S WO/RLC  | RLI           |
| Related Application Date <b>(1)</b>                               | /RLD            | S WO2005-CN1971/RLN                                       | RLI           |
| Related Application Type  | /RLT            | S 20050329/RLD  | RLI           |
| Related Application Year <b>(1)</b>                               | /RLY            | S PARENT APPLICATION/RLT                                  | RLI           |
| Related Patent Country  | /RLPC           | S 2005/RLY  | RLI           |
| Related Patent Date <b>(1)</b>                                    | /RLPD           | S WO/RLPC   | RLI           |
| Related Patent Number   | /RLPN           | S 20230420/RLPY   | RLI           |
| Related Patent Year <b>(1)</b>                                    | /RLPY           | S WO2000000038/RLPN                                       | RLI           |
| Title*  | /TI             | S 2023/RLPY   | RLI           |
| Title (English)   | /TIEN           | S FLUID###/TI   | TI            |
| Ultimate Owner <b>(4)</b>   | /UO             | S FLUID###/TIEN   | TI, TIEN      |
| Ultimate Owner Standardized <b>(4)</b>                            | /UOS            | S BASF/UO   | UO            |
| Update Date <b>(1)</b>  | /UP             | S BASF/UOS  | UOS           |
| Update Date, Full Text <b>(1)</b>                                 | /UPTX           | S UP=APRIL 2012   | UP            |
|   |                 | S 20230910/UPTX   | UPTX          |

**(1)** Numeric search field that may be searched using numeric operators or ranges.

**(2)** By default, patent numbers, application and priority numbers are displayed in STN Format. To display them in Derwent format, enter SET PATENT DERWENT at an arrow prompt. To reset display to STN Format, enter SET PATENT STN.

**(3)** An online thesaurus is available in this field.

**(4)** Search with implied (S) proximity is available in this field.

## Super Search Fields

Enter a super search code to execute a search in one or more fields that may contain the desired information. Super search fields facilitate crossfile and multifile searching. EXPAND may not be used with super search fields. Use EXPAND with the individual field codes instead.

| Search Field Name        | Search Code | Fields Searched        | Search Examples          | Display Codes    |
|--------------------------|-------------|------------------------|--------------------------|------------------|
| Application Number Group | /APPS       | AP, PRN, RLN           | S WO 2021-CN124037 /APPS | AI, PRAI, APPS   |
| Patent Assignee Group    | /PASS       | PA, PA.T, PAS, PAN, UO | S BASF/PASS              | PA, PAN, PAS, UO |
| Patent Number Group      | /PATS       | PN, RLPN               | S CN216083304U/PATS      | PI, RLI          |

## Property Fields <sup>(1)</sup>

In CNFULL a numeric search for a specific set of physical properties (/PHP) is available within the full-text fields (TI, AB, DETD and CLM). The numeric values are not displayed as single fields but are instead highlighted within the hit displays.

Use EXPAND A/PHP to search for all available physical properties. A search with the respective field codes will be carried out in all database fields with English text. The /PHP index contains a complete list of codes and related text for all physical properties available for numeric search.

| Field Code      | Property                      | Unit                   | Symbol            | Search Examples                              |
|-----------------|-------------------------------|------------------------|-------------------|--|
| /AOS            | Amount of Substance           | Mol                    | mol               | S 10 /AOS                                    |
| /BIR            | Bit Rate                      | Bit/Second             | bit/s             | S 8000-10000/BIR                             |
| /BIT            | Stored Information            | Bit                    | Bit               | S BIT > 3 MEGABIT                            |
| /CAP            | Capacitance                   | Farad                  | F                 | S 1-10 MF/CAP                                |
| /CATA           | Catalytic Activity            | Katal                  | kat               | S 1-10/CATA                                  |
| /CDN            | Current Density               | Ampere/Square Meter    | A/m <sup>2</sup>  | S CDN>10 A/M**2                              |
| /CMOL           | Molarity, Molar Concentration | Mol/Liter              | mol/L             | S UREA/BI (S) 8/CMOL                         |
| /CON            | Conductance                   | Siemens                | S                 | S 1S-3/CON                                   |
| /DB             | Decibel                       | Decibel                | dB                | S DB>50                                      |
| /DEG            | Degree                        | Degree                 | °                 | S CYLINDER/BI (S) 45/DEG                     |
| /DEN (/C)       | Density (Mass Concentration   | Kilogram/Cubic Meter   | kg/m <sup>3</sup> | S 5E-3-10E-3/DEN                             |
| /DEQ            | Dose Equivalent               | Sievert                | Sv                | S 100/DEQ                                    |
| /DOA            | Dosage                        | Milligram/Kilogram/Day | mg/kg/day         | S 100-300/DOA                                |
| /DOS<br>(/LD50) | Dose                          | Milligram/Kilogram     | mg/kg             | S DOS>0.8                                    |
| /DV             | Viscosity, dynamic            | Pascal * Second        | Pa*s              | S DV>5000                                    |
| /ECH<br>(/CHA)  | Electric Charge               | Coulomb                | C                 | S 0.0001-0.001/ECH                           |
| /ECO<br>(/ECND) | Electrical Conductivity       | Siemens/Meter          | S/m               | S ECO>800 S/M (15A)<br>AQUEOUS               |
| /ELC<br>(/ECC)  | Electric Current              | Ampere                 | A                 | S 1-10/ELC                                   |
| /ELF<br>(/ECF)  | Electric Field                | Volt/Meter             | V/m               | S 200/ELF                                    |
| /ENE            | Energy                        | Joule                  | J                 | S DROPLETS (10A) 40 JOULE -<br>70 JOULE /ENE |
| /ERE<br>(/ERES) | Electrical Resistivity        | Ohm*Meter              | Ohm*m             | S ERE>0.1                                    |
| /FOR            | Force                         | Newton                 | N                 | S 50 N /FOR                                  |
| /FRE (/F)       | Frequency                     | Hertz                  | Hz                | S OSCILLAT?/BI (S) 1- 3/FRE                  |
| /IU             | International Unit            | none                   | IU                | S IU>1000 (P) VITAMIN A                      |

Property Fields <sup>(1)</sup> (cont'd)

| Field Code      | Property                         | Unit                      | Symbol             | Search Examples                                |
|-----------------|----------------------------------|---------------------------|--------------------|--|
| /KV             | Viscosity, kinematic             | Square Meter/Second       | M <sup>2</sup> /s  | S METHYLPOLYSILOXANES/BI (10A) 200-300 CST /KV |
| /LEN<br>(/SIZ)  | Length, Size                     | Meter                     | m                  | S 1-4/LEN                                      |
| /LUME           | Luminous Emittance, Illuminance  | Lux                       | lx                 | S 10-50/LUME                                   |
| /LUMF           | Luminous Flux                    | Lumen                     | Lm                 | S LUMF>1000                                    |
| /LUMI           | Luminous Intensity               | Candela                   | cd                 | S LUMI<4                                       |
| /M              | Mass                             | Kilogram                  | kg                 | S ALLOY/BI (30A) 1E-10-1E-5/M                  |
| /MCH            | Mass to Charge Ratio             | none                      | m/z                | S MCH=1  |
| /MFD<br>(/MFS)  | Magnetic Flux Density            | Tesla                     | T                  | S MFD>102                                      |
| /MFR<br>(/MFL)  | Mass Flow Rate                   | Kilogram/Second           | kg/s               | S MFR<0.1                                      |
| /MFST           | Magnetic Field Strength          | Ampere/Meter              | A/m                | S 45-50/MFST                                   |
| /MM (/MW, /MOM) | Molar Mass                       | Gram/Mol                  | g/mol              | S 2000-3000 G/MOL/MM                           |
| /MOLS           | Molality of Substance            | Mol/Kilogram              | mol/kg             | S 01.-10 MOL/KG/MOLS                           |
| /MVR            | Melt Volume Rate, Melt Flow Rate | none                      | g/10 min           | S 3/MVR  |
| /PER            | Percent (Proportionality)        | none                      | %                  | S POLYMER?/AB (5A) 4/PER                       |
| /PHV<br>(/PH)   | pH Value                         | pH                        | pH                 | S 7.4-7.6/PHV                                  |
| /POW<br>(/PW)   | Power                            | Watt                      | W                  | S "HG-XE-?"/BI (S) 100-200 WATT/POW            |
| /PPM            | Parts per million                | Ppm                       | ppm                | S 100 PPM /PPM (10A) ADDITIVE/BI               |
| /PRES (/P)      | Pressure                         | Pascal                    | Pa                 | S (VACUUM (5A) DISTILL?)/BI (S) 1000-1100/PRES |
| /RAD            | Radioactivity                    | Becquerel                 | Bq                 | S 1-10/RAD                                     |
| /RES            | Electrical Resistance            | Ohm                       | Ohm                | S SENSOR /BI (S) 10- 100/RES                   |
| /RI             | Refractive Index                 | none                      |                    | S 3-4/RI                                       |
| /RSP            | Rotational Speed                 | Revolution/Minute         | rpm                | S 2 RPM - 100 RPM /RSP (S) ENGINE/BI           |
| /SAR            | Area /Surface Area               | Square Meter              | m <sup>2</sup>     | S PLATE/BI (S) 10 M**2 - 100 M**2 /SAR         |
| /SOL<br>(/SLB)  | Solubility                       | Gram/100 gram             | g/100g             | S SOL>20 G/100G (5A) WATER                     |
| /SSAM           | Specific Surface Area, Mass      | Square Meter/<br>Kilogram | m <sup>2</sup> /kg | S 1-10/SSAM                                    |
| /STSC<br>(/ST)  | Surface Tension                  | Joule /Square Meter       | J/m <sup>2</sup>   | S 60 J/M**2/STSC                               |
| /TCO<br>(/TCND) | Thermal Conductivity             | Watt/Meter*Kelvin         | W/m*K              | S 1/TCO (S) HEAT?                              |
| /TEMP (/T)      | Temperature                      | Kelvin                    | K                  | S 20-25/TEMP                                   |
| /TEX            | Tex                              | Gram/Kilometer            | g/km               | S 1-5/TEX                                      |
| /TIM            | Time                             | Second                    | s                  | S ?/INCUB?/BI (10A) 50 S - 150 S /TIM          |
| /VEL (/V)       | Velocity                         | Meter per Second          | m/s                | S REDUC?/BI (S) 1E-3-5E-3/VEL                  |
| /VELA           | Velocity, angular                | Radian/Second             | rad/s              | S VELA>10                                      |
| /VLR            | Volumetric Flow Rate             | Cubic Meter/Second        | m <sup>3</sup> /s  | S 1 M**3/S - 2 M**3/S /VLR (S) ABRASIVE        |
| /VOL            | Volume                           | Cubic Meter               | m <sup>3</sup>     | S 1E-8-2E-8/VOL.EX                             |
| /VOLT           | Voltage                          | Volt                      | V                  | S TENSION/BI (10A) 5E-3 V <VOLT<7E-3 V         |

(1) Exponential format is recommended for the search of particularly high or low values, e.g., 1.8E+7 or 1.8E7 (for 18000000) or 9.2E-8 (for 0.000000092).

## International Patent Classification (/IPC) Thesaurus

The classifications, validity and catchwords for the main headings and subheadings from the current (8<sup>th</sup>) edition of the WIPO International Patent Classification (IPC) manual are available. The classifications from the previous editions (1-7) are also available as separate thesauri. To EXPAND and SEARCH in the thesauri for editions 1–7, use the field code followed by the edition number, e.g., /IPC2, for the 2<sup>nd</sup> edition. Catchwords are included only in the thesauri for the 8<sup>th</sup>, 7<sup>th</sup>, 6<sup>th</sup>, and 5<sup>th</sup> editions.

| Code           | Content  | Examples                   |
|----------------|--|----------------------------|
| ADVANCED (ADV) | Advanced Codes for the Core Level IPC Code               | E A61K0006-02+ADVANCED/IPC |
| ALL            | All Associated Terms (BT, SELF, NT, RT)                  | E C01C003-00+ALL/IPC       |
| BRO (MAN)      | Complete Class   | E C01C+BRO/IPC             |
| BT             | Broader Term (BT, SELF)                                  | E C01F001-00+BT/IPC        |
| CORE (COR)     | Core Codes for the Advanced Level IPC Code               | E G08C0019-22+CORE/IPC     |
| ED             | Complete title of the SELF term and IPC manual edition   | E C01F001-00+ED/IPC        |
| HIE            | Hierarchy Term (Broader, Narrower Term) (BT, SELF, NT)   | E C01B003-00+HIE/IPC       |
| INDEX          | Complete title of the SELF term                          | E C01F001-00+INDEX/IPC     |
| KT             | Keyword Term (catchwords) (SELF, KT)                     | E CYANOGEN+KT/IPC          |
| NEXT           | Next Classification                                      | E C01C001-00+NEXT5/IPC     |
| NT             | Narrower Terms (SELF, NT)                                | E C01C+NT/IPC              |
| PREV           | Previous Classification                                  | E C01C001-12+PREV10/IPC    |
| RT (SIB)       | Related Terms (SELF, RT)                                 | E C01C003-20+RT/IPC        |
| TI             | Complete Title of SELF Term and Broader Terms (BT, SELF) | E C01F001-00+TI/IPC        |

## ECLA (/EPC) Thesaurus

This thesaurus is available in the /EPC search field (for ECLA codes). All relationship codes can be used with both the EXPAND and SEARCH commands. Note that the CPC replaced the EPC in 2013.

| Code     | Content  | Search Examples            |
|----------|--|----------------------------|
| ALL      | All usually required terms (BT, SELF, CODE, DEF)                 | E C12M0001-34H2+ALL/EPC    |
| AUTO (1) | Automatic relationship (BT, SELF, CODE, DEF)                     | E G01J003-443+AUTO/EPC     |
| BT       | Broader terms (BT, SELF)   | E G01J0003-443+BT/EPC      |
| CODE     | Classification Code (SELF, CODE)                                 | E MOVING SCRAPER+CODE/EPC  |
| DEF      | Definition (SELF, DEF)   | E B65G0045-16+DEF/EPC      |
| HIE      | Hierarchy terms (broader and narrower terms) (BT, SELF, DEF, NT) | E A01B0001+HIE/EPC         |
| KT       | Keyword terms (SELF, KT)   | E LASER+KT/EPC             |
| MAX      | All associated terms   | E G01J0003-44B+MAX/EPC     |
| NEXT     | Next classification within the same class (SELF, NEXT)           | E A01B0001-24+NEXT/EPC     |
| NEXT(n)  | Next n classification within the same class                      | E A01B0001-24+NEXT3/EPC    |
| NT       | Narrower terms   | E G05B0001-04+NT/EPC       |
| PREV     | Previous Code within the same class (SELF, PREV)                 | E G05B0019-418N1+PREV/EPC  |
| PREV(n)  | Previous n classifications within the same class                 | E G05B0019-418N1+PREV2/EPC |
| TI       | Complete Title of SELF Term and Broader Terms (BT, SELF)         | E G05B0001-03+TI/EPC       |

(1) Automatic Relationship is SET OFF. In case of SET REL ON the result of EXPAND or SEARCH without any relationship code is the same as described for AUTO.

## CPC Thesaurus

This thesaurus is available in the /CPC search field. All relationship codes can be used with both the EXPAND and SEARCH commands.

| Code     | Content  | Search Examples         |
|----------|--|-------------------------|
| ALL      | All usually required terms (BT, SELF, CODE, DEF)                 | E C12M0001-005+ALL/CPC  |
| AUTO (1) | Automatic relationship (BT, SELF, CODE, DEF)                     | E G01J003-443+AUTO/CPC  |
| BT       | Broader terms (BT, SELF)   | E G01J0003-443+BT/CPC   |
| CODE     | Classification Code (SELF, CODE)                                 | E CARTRIDGES+CODE/CPC   |
| DEF      | Definition (SELF, DEF)   | E B65G0045-16+DEF/CPC   |
| HIE      | Hierarchy terms (broader and narrower terms) (BT, SELF, DEF, NT) | E A01B0001+HIE/CPC      |
| KT       | Keyword terms (SELF, KT)   | E LASER+KT/CPC          |
| MAX      | All associated terms   | E G01J0003-44+MAX/CPC   |
| NEXT     | Next classification within the same class (SELF, NEXT)           | E A01B0001-24+NEXT/CPC  |
| NEXT(n)  | Next n classification within the same class                      | E A01B0001-24+NEXT3/CPC |
| NT       | Narrower terms   | E G05B0001-04+NT/CPC    |
| PREV     | Previous Code within the same class (SELF, PREV)                 | E G05B0019-00+PREV/CPC  |
| PREV(n)  | Previous n classifications within the same class                 | E G05B0019-00+PREV2/CPC |
| TI       | Complete Title of SELF Term and Broader Terms (BT, SELF)         | E G05B0001-03+TI/CPC    |

(1) Automatic Relationship is SET OFF. In case of SET REL ON the result of EXPAND or SEARCH without any relationship code is the same as described for AUTO.

## DISPLAY and PRINT Formats

Any combination of formats may be used to display or print answers. Multiple codes must be separated by spaces or commas, e.g., D L1 1-5 TI PA. The fields are displayed or printed in the order requested.

The information of the latest publication is displayed by default. To display the content for all levels of the record you can combine all display fields and formats with the qualifier .M except FA, SCAN, and TRIAL. The default display format is STD.M, i.e., all publication levels of one family in the STD format.

For displaying a particular publication of a database record, you can simply add for certain display field the kind code to the appropriate display format, e.g., ALL.A. Fields that allow this are indicated by a number (3).

Hit-term highlighting is available for all fields. Highlighting must be ON during SEARCH to use the HIT, KWIC, and OCC formats.

| Format      | Content                           | Examples    |
|-------------|-----------------------------------|-------------|
| AB (ABS)    | Abstract                          | D TI AB 1-5 |
| ABEN        | Abstract (English)                | D ABEN      |
| ABZH        | Abstract (Chinese)                | D ABZH      |
| AGZH        | Agent (Chinese)                   | D AGZH      |
| AI (AP) (1) | Application Information           | D AI        |
| AN          | Accession Number                  | D L3 AN     |
| APO         | Application Number Original       | D APO       |
| CLM (3)     | Claims                            | D CLM       |
| CLM.CG (3)  | Claims, Claim Group               | D CLM.CG    |
| CLM.IC (3)  | Claims, Independent Claims        | D CLM.IC    |
| CLMEN (3)   | Claims (English)                  | D CLMEN     |
| CLMN (2)    | Number of Claims                  | D CLMN      |
| CPC         | Cooperative Patent Classification | D CPC       |
| CPC.TAB     | CPC, Tabular                      | D CPC.TAB   |
| DED         | Data Entry Date                   | D DED       |
| DETD (3)    | Detailed Description              | D DETD      |
| DETDEN (3)  | Detailed Description (English)    | D DETDEN    |
| DETN (2)    | Number of Paragraphs in DETD      | D DETN      |
| DT (TC)     | Document Type                     | D DT        |
| DUPD        | Data Update Date                  | D DUPD      |
| ED          | Entry Date                        | D ED        |
| EDTX        | Entry Date of Full-text           | D EDTX      |
| EPC         | European Patent Classification    | D EPC       |



**DISPLAY and PRINT Formats (cont'd)**

| Format            | Content  | Examples  |
|-------------------|--|-----------|
| FA                | Field Availability (for all publication levels)  | D FA      |
| GI                | Graphic Image  | D GI      |
| IC                | IPC (format contains ICM, ICS)   | D IC      |
| ICM               | IPC, Main  | D IC      |
| ICO               | ICO (in-computer-only) Classification  | D ICO     |
| ICS               | IPC, Secondary   | D ICS     |
| IN (AU)           | Inventor   | D IN      |
| IN.CNY            | Inventor, Country  | D IN.CNY  |
| INZH              | Inventor (Chinese)   | D INZH    |
| IPC               | IPC, version 1-8 (format contains ICM, ICS, ICA, ICI, IPCI, IPCR)  | D IPC     |
| IPC.TAB           | IPC, Tabular Format  | D IPC.TAB |
| IPCI              | IPC, Initial   | D IPCI    |
| IPCR              | IPC, Reclassified  | D IPCR    |
| LA                | Language   | D LA      |
| LAF               | Language of Filing   | D LAF     |
| LCL               | Locarno Classification   | D LCL     |
| MCLM              | Main Claim   | D MCLM    |
| PA (CS)           | Patent Assignee  | D PA      |
| PA.CNY            | Patent Assignee, Country   | D PA.CNY  |
| PAN               | Patent Assignee Normalized   | D PAN     |
| PAS               | Patent Assignee Standardized   | D PAS     |
| PAZH              | Patent Assignee (Chinese)  | D PAZH    |
| PI (PN, PATS) (1) | Patent Information   | D PI      |
| PIT               | Patent Information Publication Type  | D PIT     |
| PNO               | Patent Number, Original Format   | D PNO     |
| PRN (PRAI) (1, 5) | Priority Information   | D PRN     |
| PRNO (PRAO) (2)   | Priority Number, Original Format   | D PRNO    |
| PRYF              | Priority Year, First   | D PRYF    |
| RLI (RLN)         | Related Application Number   | D RLI     |
| RLPI              | Related Patent Information   | D RLPI    |
| TI                | Title  | D TI      |
| TIEN              | Title (English)  | D TIEN    |
| TIZH              | Title (Chinese)  | D TIZH    |
| UO                | Ultimate Owner   | D UO      |
| UOS               | Ultimate Owner Standardized  | D UOS     |
| UP                | Update Date  | D UP      |
| UPTX              | Update Date (English)  | D UPTX    |
| ALL (1, 3)        | AN, ED, EDP, EDTX, UP, UPTX, DED, DUPD, TIEN, TIZH, IN, PA, PAS, PAN, UO, UOS, AGN, LAF, LA, DT, PI, PIT, AI, PRAI, RLPI, RLI, IPC, CPC, EPC, ICO, LCL, ABEN, DETDEN, CLMEN, KT  | D ALL     |
| IALL (1, 3)       | ALL, indented with text labels   | D IALL    |
| DALL (1)          | ALL, delimited for post processing   | D DALL    |
| ALLG (1)          | ALL, plus graphic image  | D ALLG    |
| IALLG (1)         | IALL plus graphic image  | D IALLG   |
| ALLO (1, 3)       | AN, EDP, ED, EDTX, UP, UPTX, DED, DUPD, TIEN, TIZH, IN, INZH, PA, PAZH, PAS, PAN, UO, UOS, AGZH, AGN, LAF, LA, DT, PI or PNO (if no PI), PIT, AI or APO (if no AI), PRAI or PRAO (if no PRAI), RLPI, RLI, IPC, CPC, EPC, ICO, LCL, ABEN, ABZH, DETDEN, CLMEN, KT | D ALLO    |
| APPS (1)          | AI, RLN, PRAI  | D APPS    |
| BIB (1)           | AN, ED, EDP, EDTX, UP, UPTX, DED, DUPD, TIEN, TIZH, IN, PA, PAS, PAN, UO, UOS, AGN, LAF, LA, DT, PI, PIT, AI, PRAI, RLI  | D BIB     |
| IBIB (1)          | BIB, indented with text labels   | D IBIB    |
| BIBG (1)          | BIB, plus graphic image  | D BIBG    |
| IBIBG (1)         | IBIB, plus graphic image   | D IBIBG   |

**DISPLAY and PRINT Formats (cont'd)**

| Format                         | Content   | Examples  |
|--------------------------------|---|-----------|
| BIBO (1)                       | AN, EDP, ED, EDTX, UP, UPTX, DED, DUPD, TIEN, TIZH, IN, INZH, PA, PAZH, PA.NO, PAS, PAN, UO, UOS, AGN, AGZH, LAF, LA, DT, PI or PNO (if no PI), PIT, AI or APO (if no AI), PRAI or PRAO (if no PRAI), RLPI, RLI                     | D BIBO    |
| BRIEF (1)                      | AN, EDP, ED, EDTX, UP, UPTX, DED, DUPD, TIEN, TIZH, IN, PA, PAS, PAN, UO, UOS, AGN, LAF, LA, DT, PI, PIT, AI, PRAI, RLPI, RLI, IPC, CPC, EPC, ICO, LCL, ABEN, MCLM, KT  | D BRIEF   |
| IBRIEF (1)                     | BRIEF, indented with text labels  | D IBRIEF  |
| BRIEFG (1, 4)                  | BRIEF, plus graphic image   | D BRIEFG  |
| IBRIEFG (1, 4)                 | BRIEFG, indented with text labels   | D IBRIEFG |
| BRIEFO (1)                     | AN, EDP, ED, EDTX, UP, UPTX, DED, DUPD, TIEN, TIZH, IN, INZH, PA, PAZH, PAS, PAN, UO, UOS, AGZH, AGN, LAF, LA, DT, PI, PIT, AI, PRAI, RLPI, RLI, IPC, CPC, EPC, ICO, LCL, ABEN, ABZH, MCLM, KT                                      | D BRIEFO  |
| IND                            | IPC (ICM, ICS, IPCI, IPCR), CPC, EPC, ICO, LCL  | D IND     |
| MAX (ALL.M) (1)                | AN, EDP, ED, EDTX, UP, UPTX, DED, DUPD, TIEN, TIZH, IN, INZH, PA, PAS, PAN, UO, UOS, PAZH, AGN, AGZH, LAF, LA, DT, PI, PIT, AI, PRAI, RLPI, RLI, IPC, CPC, EPC, ICO, LCL, ABEN, DETDEN, CLMEN, FA, KT for all levels of publication | D MAX     |
| IMAX (IALL.M) (1)              | MAX, indented with text labels  | D IMAX    |
| MAXG (ALLG.M) (1)              | MAX, plus graphic image   | D MAXG    |
| IMAXG (IALLG.M) (1)            | IMAX, plus graphic image  | D IMAXG   |
| SCAN (4)                       | TI (random display without answer numbers)  | D SCAN    |
| STD (STD.M) (1, 6)             | AN, EDP, ED, EDTX, UP, UPTX, DED, DUPD, TIEN, TIZH, IN, PA, PAS, PAN, UO, UOS, AGN, LAF, LA, DT, PI, PIT, AI, PRAI, RLPI, RLI, IPC, CPC, EPC, ICO, LCL  | D STD     |
| ISTD (1)                       | STD, indented with text labels  | D ISTD    |
| STDG (1)                       | STD, plus graphic image   | D STDG    |
| ISTDG (1)                      | ISTD, plus graphic image  | D ISTDG   |
| TRIAL (TRI, SAM, SAMPLE, FREE) | EDP, ED, EDTX, UP, UPTX, DED, DUPD, TIEN, FA, DETN, CLMN  | D TRIAL   |
| TX                             | DETDEN, CLMEN   | D TX      |
| HIT                            | Hit term(s) and field(s)  | D HIT     |
| KWIC                           | Up to 50 words before and after hit term(s) (KeyWord-In-Context)  |           |
| OCC                            | Number of occurrences of hit term(s) and field(s) in which they occur   |           |

- (1) By default, patent numbers, application and priority numbers are displayed in STN Format. To display them in Derwent format, enter SET PATENT DERWENT at an arrow prompt. To reset display to STN Format, enter SET PATENT STN.
- (2) Custom display only.
- (3) You can combine this display field with the qualifier .PK (Patent Kind Code) to display the content for a certain publication level of a record, e.g., CLM.B2.
- (4) SCAN must be specified on the command line, i.e., D SCAN or DISPLAY SCAN.
- (5) If priority information is not available for a certain document, this information is taken from the application information of this document and marked with an asterisk (\*).
- (6) The default display format is STD.M, i.e., all publication levels of one family in the STD format.

## SELECT, ANALYZE, and SORT Fields

The SELECT command is used to create E-numbers containing terms taken from the specified field in an answer set.

The ANALYZE command is used to create an L-number containing terms taken from the specified field in an answer set.

The SORT command is used to rearrange the search results in either alphabetic or numeric order of the specified field(s).

You can combine all fields except FA with the qualifier .M to SELECT/ANALYZE the content of all publication levels.

| Field Name                                | Field Code           | ANALYZE/<br>SELECT (1) | SORT |
|---|----------------------|------------------------|------|
| Abstract                                  | AB                   | Y                      | Y    |
| Abstract (English)                        | ABEN                 | Y                      | Y    |
| Accession Number                          | AN                   | Y                      | Y    |
| Application Country                       | AC                   | Y                      | Y    |
| Application Date                          | AD                   | Y                      | Y    |
| Application Information                   | AI (AP)              | Y (2)                  | Y    |
| Application Kind Code                     | AK                   | Y                      | Y    |
| Application Number Group                  | APPS                 | Y                      | Y    |
| Application Number Original               | APO                  | Y                      | Y    |
| Application Year                          | AY                   | Y                      | Y    |
| Cooperative Patent Classification         | CPC                  | Y                      | Y    |
| Data Entry Date                           | DED                  | Y                      | Y    |
| Data Update Date                          | DUPD                 | Y                      | Y    |
| Document Type                             | DT (TC)              | Y                      | Y    |
| Entry Date                                | ED                   | Y                      | Y    |
| Entry Date Full Text                      | EDTX                 | Y                      | Y    |
| European Patent Classification            | EPC<br>(ECLA, EPCLA) | Y                      | Y    |
| Field Availability                        | FA                   | Y                      | N    |
| International Patent Classification       | IC                   | Y                      | Y    |
| ICO (in-computer-only) classification     | ICO                  | Y                      | Y    |
| Inventor                                  | IN (AU)              | Y                      | Y    |
| Inventor, Country                         | IN.CNY               | Y                      | Y    |
| IPC (ICM, ICS, IPCI, IPCR)                | IPC                  | Y                      | Y    |
| IPC, Advanced Level Symbols               | IPC.A                | Y (3)                  | N    |
| IPC, Advanced Level Symbols for Invention | IPC.AI               | Y (3)                  | N    |
| IPC, Core Level                           | IPC.C                | Y                      | N    |
| IPC, Core Level for Invention             | IPC.CI               | Y                      | N    |
| IPC, Initial                              | IPCI                 | Y                      | Y    |
| IPC, Main                                 | ICM (IPCM)           | Y                      | Y    |
| IPC, Reclassified                         | IPCR                 | Y                      | Y    |
| IPC, Reform                               | IPC.REF              | Y                      | N    |
| IPC, Secondary                            | ICS (IPCS)           | Y                      | Y    |
| Key Terms                                 | KT                   | Y                      | N    |
| Language                                  | LA                   | Y                      | Y    |
| Language of Filing                        | LAF                  | Y                      | Y    |
| Locarno Classification                    | LCL                  | Y                      | Y    |
| Number of Claims                          | CLMN                 | Y                      | Y    |
| Number of Paragraphs in DETD              | DETN                 | Y                      | Y    |
| Occurrence Count of Hit Terms             | OCC                  | N                      | Y    |
| Patent Assignee                           | PA (CS)              | Y                      | Y    |
| Patent Assignee, Country                  | PA.CNY               | Y                      | Y    |
| Patent Assignee, Total                    | PA.T                 | Y                      | N    |
| Patent Assignee Normalized                | PAN                  | Y                      | Y    |
| Patent Assignee Standardized              | PAS                  | Y                      | Y    |
| Patent Country                            | PC                   | Y                      | Y    |
| Patent Information Publication Type       | PIT                  | Y                      | Y    |
| Patent Kind Code                          | PK                   | Y                      | Y    |

**SELECT, ANALYZE, and SORT Fields (cont'd)**

| Field Name   | Field Code | ANALYZE/<br>SELECT (1) | SORT |
|--|------------|------------------------|------|
| Patent Number  | PN (PI)    | Y (default)            | Y    |
| Patent Number, Original  | PNO        | Y                      | Y    |
| Patent Number Group  | PATS       | Y                      | Y    |
| Patent Number/Kind Code  | PNK        | Y                      | Y    |
| Pre-IPC8 Symbols from the ICM and first IPC8 values from 2006-present (IPC, Main or First) | IPC.F      | Y (3)                  | Y    |
| Priority Country   | PRC        | Y                      | Y    |
| Priority Date  | PRD        | Y                      | Y    |
| Priority Date, First   | PRDF       | Y                      | Y    |
| Priority Number  | PRN (PRAI) | Y                      | Y    |
| Priority Number, Original  | PRNO       | Y                      | Y    |
| Priority Year  | PRY        | Y                      | Y    |
| Priority Year, First   | PRYF       | Y                      | Y    |
| Publication Date   | PD         | Y                      | Y    |
| Publication Year   | PY         | Y                      | Y    |
| Related Patent Country   | RLC        | Y                      | Y    |
| Related Application Number   | RLN        | Y                      | Y    |
| Related Application Date   | RLD        | Y                      | Y    |
| Related Application Type   | RLT        | Y                      | Y    |
| Related Application Year   | RLY        | Y                      | Y    |
| Related Patent Country   | RLPC       | Y                      | Y    |
| Related Patent Date  | RLPD       | Y                      | Y    |
| Related Patent Number  | RLPN       | Y                      | Y    |
| Related Patent Year  | RLPY       | Y                      | Y    |
| Title  | TI         | Y                      | Y    |
| Title (English)  | TIEN       | Y                      | Y    |
| Ultimate Owner Normalized  | UO         | Y                      | Y    |
| Ultimate Owner Standardized  | UOS        | Y                      | Y    |
| Update Date  | UP         | Y                      | Y    |
| Update Date Full Text  | UPTX       | Y                      | Y    |

- (1) HIT may be used to restrict terms extracted to terms that match search expression used to create the answer set, e.g., SEL HIT TI.  
 (2) Selects or analyzes application numbers with /AP appended to the terms created by SELECT.  
 (3) Appends /IPC to the terms created by SELECT.

## Sample Records

### DISPLAY MAX

AN 35755134 CNFULL EDP 20201116 ED 20201116 UP 20240505 EDTX 20201116  
UPTX 20210303  
DED 20201103 DUPD 20240430 [Full-text](#)  
TIEN ACK/NACK information feedback method of downlink data and related  
equipment  
TIZH 下行数据的ACK/NACK信息反馈方法及相关设备  
IN XUE YIFAN; LIU YUN; WANG DA; WANG JIAN; ZENG YONGBO  
PA HUAWEI TECH CO LTD;  
PAS HUAWEI TECH  
PAN HUAWEI  
UO SHENZHEN HUAWEI INVESTMENT AND HOLDING CO., LTD.  
UOS Huawei  
LAF English  
LA Chinese  
DT Patent; (Fulltext)  
PI CN 111884772 A 20201103  
PIT CNA UNEXAMINED APPLICATION FOR A PATENT FOR INV.  
AI CN 2020-10547519 20161010  
PRAI WO 2016-CN100503 20160928  
CN 2016-80089669 20161010  
RLI WO 2016-CN100503 20160928 PCT Application  
IPCI H04L0001-18 [I,A]; H04L0005-00 [I,A]; H04W0072-04 [I,A]; H04W0074-08  
[I,A]  
CPC H04L0001-1864; H04L0001-1896; H04L0005-0064; H04L0001-1812;  
H04L0001-1825; H04L0005-0055; H04L0001-1893; H04W0074-0833; H04W0072-23

AB

Original  
[DESC0001] The embodiment of the invention discloses an ACK/NACK information feedback method for downlink data, and the method comprises the following steps: acquiring processing capacity information of user equipment, and reporting the processing capacity information to a base station; acquiring data information of the downlink data packet; according to the processing capability information and the data information, calculating basic delay time required by the user equipment for performing data decoding and ACK/NACK information coding on the downlink data packet; receiving extra delay time issued by the base station for the downlink data packet, wherein the extra delay time is used for indicating the position of a subframe for feeding back ACK/NACK information corresponding to the downlink data packet; and selecting a corresponding subframe to feed back ACK/NACK information corresponding to the downlink data packet according to the sum of the basic delay time and the additional delay time. In addition, the embodiment of the invention also discloses a base station and user equipment using the method. The method can effectively reduce data transmission delay.

DETDEN

[DESC0001] Technical Field

[DESC0002] The invention relates to the technical field of communication, in particular to an ACK / NACK information feedback method of downlink data and related equipment.

[DESC0003] Background Art

[DESC0004] With the new generation 5G communication technology entering the discussion phase, it is necessary to consider whether the system structure and the access procedure that have been achieved in the existing 4G Long Term (LTE) communication technology continue to be adopted. On the one hand, since the communication system is a late compatible technique, new technologies developed later tend to be compatible with prior art techniques; on the other hand, since 4G LTE has already existed a large number of existing designs, much flexibility of 5G must be sacrificed to reduce performance in order to achieve

compatibility. , In 3 GPP tissues, the backward compatibility and the backward compatibility are studied in parallel from the consideration of backward compatibility. In both directions, the backward compatible technical direction is not considered, and is referred to as 5G new air interface (New Radio, NR).

...

[DESC0415] It is to be understood by those skilled in the art that all or part of the flow of the foregoing embodiments may be practiced without departing from the scope of the invention as defined by the appended claims.

CLMEN

[CLM0001] 1.A transmission method of ACK / NACK information of data is characterized by comprising the following steps:

Transmitting data packets to a user device.

Control signaling is used for indicating first time delay of determining ACK / NACK information corresponding to the data packet by the user equipment. The second Time delay corresponding to the processing capability of the user equipment is determined. ACK / NACK information corresponding to the data packet transmitted by the user equipment is received based on the first latency and the second latency.

[CLM0002] 2.The method according to claim 1, wherein the ACK / NACK information corresponding to the data packet transmitted by the user equipment is received based on the first latency and second latency. Based on the first latency and the second latency, a subframe used by the user equipment to transmit ACK / NACK information corresponding to the data packet is determined. ACK / NACK information corresponding to the data packet is received on a subframe used for transmitting ACK / NACK information corresponding to the data packet by the user equipment.

...

[CLM0022] 22.A user equipment comprising at least one processor, a memory, a communication interface and a bus, wherein the at least one processor, the memory and the communication interface communicate with each other through the bus; the communication interface is configured to establish a communication connection with a base station; and the processor is configured to call executable program code stored in the memory and execute the method of claim 10-20.

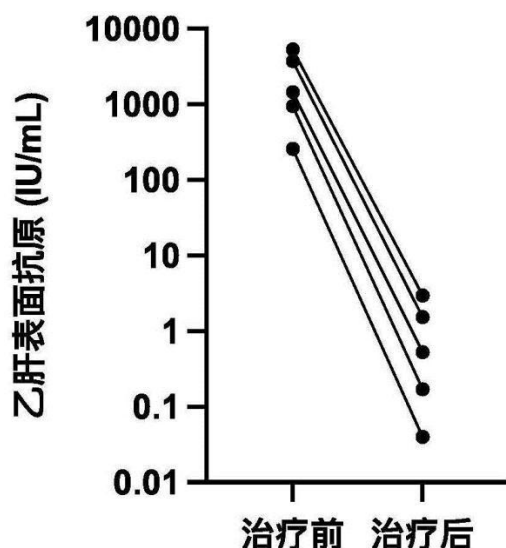
KT

downlink data; feedback method; data packet; subframe time; user equipment; balance signaling load; transmission time; delay receiving; base delay calculating; n-th subframe; uplink data; delay acquisition subunit; communication delay; downlink subframe; traffic delay requirement; user device; added field; rrc establishment; reconstruction instruction; base delay amount; base station; sequence packet subunit; random access access response; random access procedure; communication interface; time delay; delay issue subunit; radio resource control rrc; uplink timing advance; time division duplex

## DISPLAY BRIEFG

AN 43233725 CNFULL EDP 20230122 ED 20230122 UP 20230723 EDTX 20230122  
DED 20230118 DUPD 20230718 [Full-text](#)  
TIEN Preparation method of mesenchymal stem cells for preventing hepatitis B virus from infecting hepatocytes  
TIZH 一种阻断乙肝病毒感染肝细胞的间充质干细胞的制备方法  
IN MA YIDONG; WANG MIAOMIAO; LI WEIGUO  
PA SHANGHAI JUNYIHE BIOMEDICAL TECH CO LTD;  
PAS SHANGHAI JUNYIHE BIOMEDICAL TECH  
UO SHANGHAI JUNYIHE BIOMEDICAL TECH  
UOS SHANGHAI JUNYIHE BIOMEDICAL TECH  
AGN 36129  
DT Patent; (Fulltext)

PI CN 115612672 A 20230117  
PIT CNA UNEXAMINED APPLICATION FOR A PATENT FOR INV.  
AI CN 2022-11345911 20221031  
PRAI CN 2022-11345911 20221031  
IPCI C12N0005-10 [I,A]; A61K0038-16 [I,A]; A61K0048-00 [I,A]; A61P0031-20 [I,A]; C12N0015-11 [I,A]; C12N0015-867 [I,A]  
CPC C07K0014-00; C12N2740-15043; C12N2510-00; C12N0005-0668; A61K0048-005; A61P0031-20; A61K0048-0008; C12N0015-86; A61K0038-162; C12N2509-10; C12N2509-00  
GI



AB

Original

The invention discloses a preparation method of mesenchymal stem cells for treating chronic hepatitis B, and relates to the field of cell therapy. Specifically, the invention relates to construction of mesenchymal stem cells for expressing Heiprala peptide, and the construction method comprises the following steps: Step 1, isolated culture of umbilical cord mesenchymal stem cells; step2, construction of a gene vector of PreS1.47, and construction of a gene vector of PreS1.47; 3, a lentiviral vector carrying the PreS1.47 gene is prepared, and a lentiviral vector carrying the PreS1.47 gene is prepared; step 4, carrying out gene modification on the mesenchymal stem cells; carrying out PreS 1.47 to MSC (mesenchymal stem cell) amplification; and Step 5. PreS1.47-MS C is used for treating the chronic hepatitis B. According to the invention, mesenchymal stem cells are used as a drug carrier to express the Heiprala peptide, repeated infection of hepatitis B virus is blocked by means of intravenous infusion administration, chronic hepatitis B is treated, and the Heiprala peptide has more targeting effect and lasting action effect in vivo on treatment of hepatitis B by means of the characteristic that the liver is an organ where the mesenchymal stem cells are mainly accumulated.

MCLMEN

[CLM0001] 1. A method for preparing mesenchymal stem cells that block hepatitis B virus infected hepatocytes, characterized in that it includes the following steps:  
Step1. Isolation and culture of umbilical cord mesenchymal stem cells;  
Step2. Construction of PreS1.47 gene vector;  
Step3. Preparation of lentiviral vectors carrying PreS1.47 gene;  
Step4. Gene modification of mesenchymal stem cells;  
Step5. PreS1.47-MS C amplification;  
Step5. PreS1.47-MS C for chronic hepatitis B.

KT

mesenchymal stem cell; cell culture dish; umbilical cord tissue; umbilical cord protection solution; heiprala peptide; cell culture incubator; tissue block; ms cbm complete medium culture; cell confluency;

sterile petri dish; cell therapy; seed cell; centrifuged cell; cell density; cell passage; liver cell; cell number; cell suspension; cell debris; residual disinfectant alcohol; saline working solution; chronic hepatitis; construction method; lentiviral packaged helper plasmid; sterilized pbs solution; tissue forcep; chronic inflammatory site; chronic hbv infection; glial tissue; lmscbm complete medium

**DISPLAY BIB.M**

AN 44082026 CNFULL EDP 20210607 ED 20210607 UP 20240129 EDTX 20210607  
UPTX 20210930  
DED 20210601 DUPD 20240123 [Full-text](#)  
TIEN Electric torque wrench  
TIZH 一种电动扭矩扳手  
IN CHEN LIANGLIANG  
PA SHANGHAI LUOMA POWER TECH CO LTD;  
PAS SHANGHAI LUOMA POWER TECH  
UO SHANGHAI LUOMA POWER TECH  
UOS SHANGHAI LUOMA POWER TECH  
AGN 11777  
LAF English  
LA Chinese  
DT Patent; (Fulltext)  
PI CN 112873111 A 20210601  
PIT CNA UNEXAMINED APPLICATION FOR A PATENT FOR INV.  
AI CN 2020-11545592 20201224  
PRAI CN 2020-11545592 20201224

AN 44082026 CNFULL EDP 20210607 ED 20230709 UP 20230730 EDTX 20230709  
DED 20230704 DUPD 20230726 [Full-text](#)  
TIEN An electric torque wrench  
TIZH 一种电动扭矩扳手  
PA SHANGHAI LUOMA POWER TECH CO LTD;  
PAS SHANGHAI LUOMA POWER TECH  
UO SHANGHAI LUOMA POWER TECH  
UOS SHANGHAI LUOMA POWER TECH  
AGN 34126; 34126  
LAF English  
LA Chinese  
DT Patent; (Fulltext)  
PI CN 112873111 B 20230704  
PIT CNB EXAMINED APPLICATION [FROM 19850401 UNTIL 19921231] or GRANTED  
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AI CN 2020-11545592 20201224  
PRAI CN 2020-11545592 20201224

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