Oder Form
Skeletal Disorders

General Information

Patient

Surname: _____

First name: _____

Date of birth: _____

Sex: ❑ male ❑ female

Material

❑ Blood ____ ml (min. 3 ml EDTA-blood)

❑ Dried blood spot cards (at least 10 spots)

❑ DNA ____ µg (min. 5 µg DNA, concentr. ≥ 50 ng/µl) DNA-No.: _____

❑ Other specimen _____

External ID: _____

Date of sample collection: _____

Samples can be sent by mail in a cardboard box or air cushion envelope. Samples should not be exposed to direct sunlight. Dried blood spot cards can be ordered for free (info@cegat.com).

Sender / Clinic

Surname:

First name:

Institution:

Street:

Postcode/City:

Country:

Phone:

Email:

If applicable, please include a VAT number or a copy of your business registration certificate.

VAT: _____

Invoice

❑ to patient ❑ to sender / clinic

Declaration of consent

By signing this form, I declare that I have received comprehensive information about the genetic background related to the disease in question as well as the possibilities and limitations of molecular genetic testing. I understand that I have the right to withdraw my consent to genetic analyses.

I have been informed, and agree, that the data obtained in the analysis will be recorded, evaluated, or stored in an anonymized form in scientific databases, and further, in accordance with data protection and medical confidentiality, that the request, or parts thereof, may be transmitted to a specialized cooperating laboratory. I have been informed, and agree, that all data collected by CeGaT GmbH is electronically stored, processed, and used. I also consent to the data being transmitted electronically (e.g. by e-mail or fax).

If you do not check these boxes, your answer will be recorded as "No".

I consent to the storage of my genetic material for additional tests and/or quality control (for max. 10 years). ❑ Yes ❑ No

I consent to the storage of my test results beyond the timespan of 10 years (as required by German law). ❑ Yes ❑ No

I consent to the anonymous storage and use of surplus genetic material and/or test results for scientific research. ❑ Yes ❑ No

Genetic variation may sometimes be identified, which does not fit within the scope of the requested genetic analysis (so-called secondary findings report). The reporting of these variants is limited to pathogenic alterations within selected genes, for which a treatment or course of action exists for you or your family (according to the current guidelines of the American College of Medical Genetics and Genomics; ACMG SF V2.0; Kalia et al., 2017, PMID: 27854360). There is no claim of a comprehensive analysis of the genes included within the secondary findings report. An absence of secondary findings cannot be used to indicate a reduced disease risk.

With regard to secondary findings I would like:

❑ to be informed

❑ to NOT be informed

Please Note

Our panels are regularly updated to reflect current scientific research. It should therefore be recognized that there is the possibility that the list of genes on the order form may have changed slightly (genes added or removed) by the time the sample is analyzed in the laboratory. By signing this form, the patient accepts that the list of genes actually analyzed may be slightly different from what is currently listed. When NGS is utilized more than the requested genes are sequenced for each sample.

This declaration of consent can be completely or partially withdrawn at any time. I have had sufficient time to consider giving my consent.

_____ _____

Patient / Legal Guardian (Block letters) Doctor (Surname, First name)

X _____ **X** _____

Patient / Legal Guardian (Date, Signature) Doctor (Date, Signature)

Doctor's stamp / Barcode

Contact

To discuss the diagnostic strategy please do not hesitate to contact us.
Phone: +49 7071 565 44-55
Email: diagnostic-support@cegat.de

DAkkS Deutsche Akkreditierungsstelle D-ML-13206-01-00

CAP ACCREDITED COLLEGE of AMERICAN PATHOLOGISTS CLIA CERTIFIED ID: 99D2130225

CeGaT is accredited by DAkkS according to DIN EN ISO 15189:2014, by the College of American Pathologists (CAP) and CLIA.

Oder Form
Skeletal Disorders

Indication

Indication / Suspected Diagnosis:

Clinical Major Symptoms:

Preliminary genetic diagnostics:

Transplants (bone marrow, tissue, stem cells) ❑ No ❑ Yes, (please specify) _____

Please include a copy of all existing reports of your patient.

Pedigree

Consanguinity: ❑ Yes ❑ No Ethnic origin: _____

Family medical history

Are there other family members who currently have or have had the same or a similar disease as the patient?

❑ Yes ❑ No

If yes, please list the affected family members:

Name (not required)	Relationship to the patient (e.g. mother)	Age of onset	Diagnosis / Symptoms

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Skeletal Disorders
Indication & Inquiry

Inquiry

❑ **Large Panel Diagnostic Option (301 Genes, SKT-D45)**
In addition to the full analysis of the requested gene set(s), we will expand the analysis to all pathogenic and likely pathogenic variants (ACMG class 4 and 5) in genes which are related to the indication described for the proband on the entire diagnostic panel (301 genes in total).

❑ **Metaphyseal dysplasia (11 Genes, SKT01)**
ANKH, CDKN1C, COL10A1, FGFR3, MMP13, MMP9, POP1, PTH1R, RMRP, RUNX2, SBDS

❑ **Multiple epiphyseal dysplasia and pseudoachondroplasia (7 Genes, SKT02)**
COL2A1, COL9A1, COL9A2, COL9A3, COMP, MATN3, SLC26A2

❑ **Spondylometaphyseal dysplasia and Spondylo-epi-(meta)-physeal dysplasia (34 Genes, SKT03)**
ACP5, B3GALT6, B3GAT3, BGN, C21ORF2, CANT1, CHST3, COL11A1, COL11A2, COL2A1, COL9A1, DDR2, DDRGK1, DYM, EIF2AK3, EXTL3, FLNB, HSPG2, IMPAD1, KIF22, LONP1, NANS, NKX3-2, PAPSS2, PCYT1A, POP1, RAB33B, RMRP, SLC39A13, SMARCAL1, TRAPPC2, TRPV4, WISP3, XYLT1

❑ **Micromelic dysplasia: acromelic, acromesomelic, mesomelic and rhizo-mesomelic dysplasia (26 Genes, SKT04)**
ADAMTS10, ADAMTS17, ADAMTSL2, BMPR1B, DVL1, DVL3, FBN1, FGFR3, GDF5, GNAS, GPC6, IFT122, IFT140, IFT43, IHH, LRP4, MAB21L2, NPR2, PDE4D, PRKAR1A, ROR2, SHOX, SMAD4, TRPS1, WDR35, WNT5A

❑ **Short-rib dysplasia (22 Genes, SKT05)**
CEP120, CSPP1, DYNC2H1, DYNC2LI1, EVC, EVC2, ICK, IFT122, IFT140, IFT172, IFT43, IFT52, IFT80, IFT81, KIAA0586, NEK1, TCTEX1D2, TTC21B, WDR19, WDR34, WDR35, WDR60

❑ **Chondrodysplasia punctata (8 Genes, SKT06)**
AGPS, ARSE, EBP, GNPAT, LBR, MGP, NSDHL, PEX7

❑ **Osteogenesis imperfecta and related skeletal dysplasias with decreased bone density (27 Genes, SKT07)**
ALPL, ANO5, ATP6V0A2, B3GALT6, B3GAT3, B4GALT7, BMP1, COL1A1, COL1A2, CRTAP, FKBP10, GORAB, IFIH1, IFITM5, LEPRE1 (P3H1), LRP5, PLOD2, PLS3, PPIB, PYCR1, SEC24D, SERPINF1, SERPINH1, SPARC, TMEM38B, TNFRSF11B, WNT1

❑ **Osteopetrosis and related skeletal dysplasias with increased bone density (27 Genes, SKT08)**
AMER1, ANKH, CA2, CLCN7, COL1A1, CTSK, DHCR24, DLX3, FAM20C, GJA1, HPGD, LEMD3, LRP5, OSTM1, PLEKHM1, PTDSS1, SFRP4, SLCO2A1, SNX10, SOST, SQSTM1, TBXAS1, TCIRG1, TGFB1, TNFRSF11A, TNFRSF11B, TNFSF11

❑ **Hypophosphatemic rickets and related skeletal dysplasias with abnormal mineralization (16 Genes, SKT09)**
ALPL, ANKH, CASR, CLCN5, CYP27B1, CYP2R1, DMP1, ENPP1, FGF23, GNA11, OCRL, PHEX, SLC34A1, SLC34A3, SLC9A3R1, VDR

❑ **Limb malformations: isolated brachydactyly, synostoses, split-hand/foot, polydactyly, syndactyly, and selected genetic syndromes with limb malformations (40 Genes, SKT10)**
ARHGAP31, BHLHA9, BMPR1B, CDH3, CHSY1, DHODH, DLL4, DLX5, DOCK6, EOGT, ESCO2, FAM58A (CCNQ), FGF16, FGF9, FGFR1, GDF5, GJA1, GLI3, HOXA13, HOXD13, IHH, LMBR1, LRP4, MYCN, NOG, NOTCH1, PDE3A, PTHLH, RBM8A, RBPJ, RECQL4, ROR2, SALL1, SALL4, TBX15, TBX3, TBX5, TP63, WNT10B, WNT7A

❑ **Craniosynostosis (34 Genes, SKT11)**
ALPL, ASXL1, CCBE1, CDC45, CEP120, COLEC11, CYP26B1, EFNB1, ERF, ESCO2, FGFR1, FGFR2, FGFR3, FREM1, IFT122, IFT43, IFT52, IL11RA, IMPAD1, MASP1, MEGF8, MSX2, POR, RAB23, RECQL4, SCARF2, SEC24D, SKI, SMAD6, TCF12, TWIST1, WDR19, WDR35, ZIC1

❑ **Potentially lethal skeletal disorders (49 Genes, SKT12)**
AGPS, ALPL, ARSE, BMPER, CANT1, CEP120, CHRNG, COL11A1, COL11A2, COL1A1, COL1A2, COL2A1, CRTAP, CSPP1, DHCR7, DLL3, DYNC2H1, DYNC2LI1, EBP, FAM111A, FAM20C, FGFR2, FGFR3, FLNA, FLNB, GDF5, GNPAT, ICK, IFT80, INPPL1, KIAA0586, LBR, LEPRE1 (P3H1), LIFR, NEK1, NSDHL, OFD1, PAM16, PEX7, PPIB, PTH1R, RNU4ATAC, SLC26A2, SLC35D1, SOX9, TCTN3, TRIP11, TRPV4, WDR34

❑ **Seckel syndrome, 3-M syndrome, Rubinstein–Taybi syndrome, Kabuki syndrome, and further selected genetic syndromes with skeletal involvement (23 Genes, SKT13)**
ATR, CCDC8, CEP152, CHD7, CREBBP, CUL7, EP300, FLNA, KDM6A, KMT2D, LARP7, MAP3K7, NIN, NSMCE2, OBSL1, PCNT, PLK4, POC1A, RBBP8, SH3PXD2B, TAB2, TRAIP, XRCC4

❑ **Lysosomal storage disorders with skeletal involvement (21 Genes, SKT14)**
AGA, ARSB, CTSA, FUCA1, GALNS, GLB1, GNPTAB, GNPTG, GNS, GUSB, HGSNAT, HYAL1, IDS, IDUA, MAN2B1, MANBA, NAGLU, NEU1, SGSH, SLC17A5, SUMF1

❑ **Craniofacial and patellar dysostoses; dysostoses with vertebral and costal inolvement: Klippel-Feil syndrome, Meier-Gorlin syndrome, and related disorders (29 Genes, SKT15)**
ALX1, ALX3, ALX4, BMPER, CDC45, CDT1, DHODH, DLL3, EFNB1, EFTUD2, GDF3, GDF6, HES7, KAT6B, LMX1B, MEOX1, MESP2, MNX1, MYO18B, ORC1, ORC4, ORC6, POLR1D, RIPPLY2, SF3B4, SNRPB, TBX4, TBX6, TCOF1

❑ **Achondroplasia, Hypochondroplasia, and Pseudoachondroplasia (2 Genes, SKT16)**
COMP, FGFR3

❑ **Cleidocranial dysplasia and related disorders (4 Genes, SKT17)**
ALX4, FIG4, MSX2, RUNX2

❑ **Multiple exostoses (2 Genes, SKT18)**
EXT1, EXT2

Inquiry Array-CGH

❑ Please perform Array-CGH before Panel Diagnostics

❑ Array-CGH analysis has already taken place

❑ Array-CGH analysis not required

Additional analyses

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For further information and advice please do not hesitate to contact our Diagnostic Support team.
www.cegat.de/en/diagnostic-support · diagnostic-support@cegat.de · Phone +49 7071 565 44-55