

```

(defrule case-1
  (patient
    (age ?age)
    (MRN ?MRN)
    (first-name ?first-name)
    (surname ?surname)
    (gender ?gender))
  (physical-feature
    (HPO-ID ?HPO-ID)
    (physical-feature-description ?physical-feature-
description))
  (mode-of-inheritance
    (HPO-ID HP:0000006)
    (mode-of-inheritance-description Autosomal-dominant-
inheritance))
  (age-of-onset-classifier
    (childhood ?childhood))
=>
(assert (IBMFS-DB (cps-db DBA)))
(printout t ?cps-db crlf)

```

```

(defrule case-2
  (patient
    (age ?age)
    (MRN ?MRN)
    (first-name ?first-name)
    (surname ?surname)
    (gender ?gender))
  (physical-feature
    (HPO-ID ?HPO-ID)
    (physical-feature-description ?physical-feature-
description))
  (laboratoryscreening-and-hematologicalfinding
    (HPO-ID-is HP:0001903
               HP:0012410
               HP:0001896
               HP:0001972))
  (age-of-onset-classifier
    (infantile ?infantile))
  (mode-of-inheritance
    (HPO-ID-is HP:0000006)
    (mode-of-inheritance-description-is Autosomal-
dominant-inheritance))
=>
(assert(IBMFS-DB (cps-db DBA)))

```

```

(printout t ?cps-fa crlf)

```

```

(defrule case-4
  (patient (age ?age)
    (MRN ?MRN)
    (first-name ?first-name)
    (surname ?surname)
    (gender ?gender))
  (laboratoryscreening-and-hematologicalfinding
    (HPO-ID-is HP:0004808 ?and
      HP:0005528 ?and
      HP:0001738)
    (laboratoryscreening-and-hematologicalfinding-
description-is Acute-myeloid-leukemia ?and
      Bone-marrow-hypocellularity ?and
      Exocrine-pancreatic-insufficiency))
  (mode-of-inheritance
    (HPO-ID-is HP:0000007)
    (mode-of-inheritance-description-is Autosomal-
recessive-inheritance))
=>
(assert (IBMFS-SDS (cps-sds ?cps-sds))))
(printout t ?cps-sds crlf)

```

```

(defrule case-5
  (patient (age ?age)
    (MRN ?MRN)
    (first-name ?first-name)
    (surname ?surname)
    (gender ?gender))
  (age-of-onset-classifier
    (childhood ?childhood))
  (physical-feature
    (HPO-I-is HP:0030692 ?and
      HP:0002667 ?and
      HP:0100242 ?and
      HP:0003006 ?and
      HP:0002859 ?and
      HP:0012288)
    (physical-feature-description-is Brain-tumor ?
and
wilms-tumor ?
and
sarcoma ?and
Neuroblastoma ?and
Rhabdomyosarcoma ?and
Neoplasm-of-
head-and-neck))
  ?and
  (laboratoryscreening-and-hematologicalfinding

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```
(HPO-ID-is HP:0010997)
(laboratoryscreening-and-hematologicalfinding-
description-is Chromosomal-breakage-induced-by-ionizing-radiation))
(mode-of-inheritance
(HPO-ID-is HP:0000007 ?and
HP:0001419)
(mode-of-inheritance-description-is Autosomal-
recessive-inheritance ?and
X-linked-recessive-inheritance))
```

```
=>
(assert (IBMFS-FA (cps-fa ?cps-fa)))
(printout t ?cps-fa crlf)
```