

WORKING TO EMPOWER

Gwokke wa: the Immune System.

Gen me kom wa bedo kwed ika lwenyo two bino aka cwiny wa me gwokko wa. Gilwongo ne Immune System. Cwiny eni tye kwot me mako kom wa akacel. Cwiny eni lwenyo two me bino ka a woko wa komwa (ka wek two me neko cwiny eni). Cwiny eni ber caa me loyo. Gin mo weng (two) me mako wa ika a woko, gilwonge 'antigen', ci cwiny onyo la lwenyo two me gilwongo 'antibody'. Dong tic cwiny eni tye ka neno ni antibody lwenyo antigen mu bino calo two.

Gin me timo cwiny eni ka bedo ber pat ika loyo gin mo weng ikom wa, tye ni cwiny eni ngeyo two, anyim kom wa dwoko lit. Cwiny eni tenge weng tye kwed cel me cwiny ngeyo, gilwongo major histocompatibility complex (MHC). Gin mo weng me donyo cwiny eni labongo cel eni, cwiny neko. Cel eni nyo ID teng acel acel weng tye kwede, gin mo pat cwiny tamo ni pe tye 'lamera 'ne ka neko ne.

Calo gin me turu weng, cwiny bene turu. Caa mo cwiny eni lwenyo kome ka two me neko bino me gi lwongo 'autoimmune diseases' calo 'Multiple Sclerosis', sysem lupus erythematosus, ki diabetes ki arthritis mo.

Acekere me gwokke wa.

Acekere eni tye ariyo B-cell ki T-cell. Tic me B-cell tye ka nywalo antibody me lwenyo antigen (two), Kun T-cell timo tic ariyo, gin bene nywalo antibody, ki gi neko antigen (two nyo col) me gilwongo 'cytotoxic cells'.

T-cell git tye ariyo, me konyo, ki me balo cells eni. Tung me T-cell me konyo, gu poko ne itung me konyo B-cell (Th2) ki tung me konyo ka neko antigen (two nyo col) (Th1).

Cell	Tic ne
B-cell	Ka nywalo antibodies
La kony T cell La kony Th2 La kony Th1	konyo B-cells itic gi konyo B-cells konyo Cytotoxic T cells
Cytotoxic T cell	Neko ki turu antigens

Acekere cako tic icaa gin mo weng me gi ngeyo ku, me pe tye kwed cel gi donyo kom wa. Cwiny cako ka tic nio wa gin ma iye ye ka neko col/two weng.

Ikop kwene antigen dong woko pi cwiny caa weng . Gin ber ka timo tye ka nywalo

B-cells me antibodies ka woto iremo nio gi myeno ka col ka neko ne, mu donyo ikom. Kun ikop me antigen donyo ikom wa ento pe dongo woko me cwiny, gin ber ka timo, tye ka nywalo T-cells(cytotoxic cells me tye iremo ki imoo ikom wa) me neko cwiny kikome kwed col mu umo ie.

Icaa weng, cwiny eni gwokko wa. Sida neko lukony Th1 ki Th2 mot mot.

Lukony ika lweny.

Acekere eni bene gamo kony ka lweny col(antigens) ka a iliyo ariyo madit ikom wa, iremo ki moo: remo ki moo tic wakacel ikom ducu, ki ka tero acekere eni ie gi caa weng.

Remo tye 52-64% lyo me gilwongo plasma,ki 38-48% me cells. Plasma kome 91.5% pii, ki tero acekere ki cam ikom, kun remo en tye me gilwongo alkaline (pH=7.40) ki kome pek loyo pii (pek=1.057). kom remo tye RBC(erythrocytes), WBC(leukocytes), ki platelates (thrombocytes).

Moo tye liyo alkaline (pH=7.0) me tye lengo. Woto iler moo ki lwoko cwiny weng ikom kwed liyo gwokke. Moo pe tye kwed RBC. Calo remo, moo pek loyo pii(pek=1.019).

Luciko dit: Gwokke pek(Innate imunity).

Wa gamo gwokke pek(Innate immunity) ka a lunyodo wa. Kome tye:

Lugengo two

1. **del-** tye gwokke mukwonge megwa. Col pol pe twero ka donyo kom dye del ,nio gu tuco nyo gu yeco.
2. **oboo-** col karo ka obbo dye ka ono ki ka jiro.
3. **liyo um-** liyo um neko col me donyo um.
4. liyo acid (pH=7.0) me karo dye del tingo gin me gengo two del. Ikamedo wii kom del nywalo moo me bedo kwed col, me twero ka gengo two del .
5. **pig dog, pig wang, pig um, ki kwok-** tye kwed gin me gilwongo lysozyme me neko 'Gram positive bacteria cell walls me kelo cell lysis. Lyo mur bene tye kwed acid lacen kare. Liyo cun tye kwed zinc ki spermine me neko col mo. Lactoperoxidase, enzyme pek me gi nngo icak maa.
6. **ie** karo liyo me gilwongo hydrochloric acid($0.9 < \text{pH} < 3.0$) dye proteins me tic kom cam ki liyo um mo me neko col pol.

Gin mukene mu konyo cwiny ka lwenyo two gilwonge phagocytes. En lwongo col (chemotaxis), umo ne ka neko ne.

Acekere me kom gi neko aneka col, woto iremo ki moo ki timo col ka mwoc. Gi

lwongo ne glucoproteins me keto kom gi iwii col ci neko ne.

Acekere me kom wa gamo ikakare(Acquired Immunity)

Anget acekere me wa nywal kwede, itye acekere me wa gami ikakare. Tung mo me cwiny wa me gengo two twero ka loko ka doko pek ka lwenyo two pek. Itye yo ka loko ariyo me gilwongo- cell-mediated immunity ki humuoral immunity.

Cogo me laro lok

Gin me neko acekere eni tye ACHWI. Anyim loko kom achwi, dit ni wa nyang sida.

sida tye Acquired Immunodeficiency Syndrome, mu bino ka achwi Human Immunodeficiency Virus en two me kelo pek ka kom ka lwenyo two. Sida tic ika lwenyo ki neko acekere, me gilwongo white blood cells(lymphocytes). En gi lwenyo two weng ducu.

Tin dano pol ilobo weng fud tye ka two. Ka nyang can pa two eni, dit ni wa nyang kwan pa dano me tye ka two ping jwi. Te lok ni mwako acel acel, sida neko dano me o kwan pa kacokke acel iU.S.A. kin dano 36.7,000,000 ki 45.3,000,000 tye kwed sida ilobo weng, pol me tye iAfrica. Lobo me tye kwed dano pol mu two tye:

Africa-25.8,000,000, south ki southeast Asia-7.4,000,000, latin America-1.8,000,000, north America-1.2,000,000, eastern eurpe/Central Asia-1.6,000,000.

Sida tye kop dit tin me tye ka yelo lobo weng. Labongo yat me cango sida, lupwony pol tye ka miyo tam ka gengo nyayo sida.

Achwi ki kom wa

Wadi kin sida ki kom tye calo wadi kin ogwang ki twol. Achwi lwenyo lukony T-cells, umo gi ki nyayo. Ka nyayo neko T-cells me jwiko gi ka lwenyo two. Dong acekere weng too, ki kom jwiko.

Ka kwan pa T-cells poro,dano kwed sida jwiko ki kom gi mako two pat calo cancer, labongo acekere ka lwenyo ne. awene acekere gu jwike, dong ngat ugamo sida ki kome pe twero ka lwenyo two can pat mu bino, me buro kwo.

Dit ni wan yang ni kadi sida gin ma iye ka achwi, pet ye ni dano weng me tye kwed achwi tye kwed sida. Dong, dano mo madit twero ka bedo kwed achwi ka myako ki myaka labongo ka two ka sida.

Yo me sida mako kom.

Awene achwi donyo kom, woto ika moo, awene nongo lukony T-cells ki neko gi. Mukwonge, myeno kwed CD4 me tye iT-cell. Cwiny achwi donyo ki myeno kwed cwiny T-cell. Dong, achwi loko RNA ka DNA. DNA marac eni manyen myeno kwed DNA ma ber ka neko gin weng.DNA me achwi gi lownge pro virus. RNA ki Protein

me achwi kuro iwang cwiny, ki enzyme mo me gilwongo protease ngolo enzyme maber me gi lwongo polypeptides ka loko ne ka DNA me achwi. Ci kumeno, achwi nyayo ikom. DNA me achwi turo kome itung ma tino tino ki umo kome kwed cwiny(cells), ci woto ki nyayo ikom ducu labongo acekere ka ngeyo. Pe gi neko cwiny(cell) me gi donyo mukwonge, ento gi neko lukony(T-cells).

Ka kwan lukony ikom ngat poro piny ka 200,000 ka millilitre iremo, ci wa waco ni ngat eni tye kwed sida. Achwi ka dit tero kin myaka 2-15.

ngat pe to ka sida nyo achwi, ento two mu bino kwed sida, pien cwinye me lwenyo two ujwiko. Ngat me tye kwed sida twero ka to ka aona kumenu bene twero ka to ka cancer. Kome pe twero ka lwenyo two ducu me bino, ci to.

Gengo loyo cango

eni tam tii ento tam ber ka loyo weng. Ibedo pwony bor ki ol dwong ka nongo yat(vaccine) me sida, ci kun tin, pe yat ne. dong gin mu dongo tye ka gengo bwutu wa kacel. Dano twero ka gegno mako two ka pe gi poko libira, ki gengo ka bwutu, nyo ka timo bwutu ingwiny, imur nyo ka nango tung mung. Ikamedo, gu tic kwed bupira, ki ka gengo myeno remo, liyo cun, liyo mur, ki cak me ngat me tye kwed sida.

Yo ma dit ka gengo sida ilutino tye ka timo poro imaa gi ka ngey kwo gi. Ka maa tye kwed sida, mito gu miy en yat cut cut anyim latin unywale ka gengo nyayo sida.

Kop maber tye ka pwony dano kim sida,ka ngeyo ki ka nyang kop pi sida kikome, me konyo ngat ki dano weng me tye angete.

Dong wa wajo ni 'gengo loyo cango.'
